William Lee
Hamden 1819

LOGIC:

OR, THE

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RIGHT USE OF REASON

IN THE

INQUIRY AFTER TRUTH.

WITH

A VARIETY OF RULES TO GUARD AGAINST ERROR IN THE AFFAIRS OF RELIGION AND HUMAN LIFE, AS WELL AS IN THE SCIENCES.

BY ISAAC WATTS, D. D.

A NEW EDITION, CORRECTED.

EDINBURGH:
PRINTED FOR J. DICKSON, AND J. AND J. FAIRBAIRN.

1792.

TO

SIR JOHN HARTOPP, Baronet,

SIR,

IT is fit the public ſhould receive through your hands what was written originally for the aſſiſtance of your younger ſtudies, and was then preſented to you.

It was by the repeated importunities of our learned friend Mr. *John Eames*, that I was perſuaded to reviſe theſe *rudiments of logic*, and when I had once ſuffered myſelf to begin the work, I was drawn ſtill onward far beyond my firſt deſign, even to the neglect, or too long delay of other preſſing and important demands that were upon me.

It has been my endeavour to form every part of this treatiſe both for the inſtruction of ſtudents, to open their way into the ſciences, and for the more extenſive and general ſervice of mankind, that the *gentleman* and the *Chriſtian* might find their account in the peruſal as well as the *ſcholar*. I have therefore collected and propoſed the chief principles and rules of right judgment in matters of common and ſacred importance, and pointed out our moſt frequent miſtakes and prejudices in the concerns of life and religion, that we might better guard againſt the ſprings of error, guilt and ſorrow, which ſurround us in our ſtate of mortality.

You know, Sir, the great deſign of this noble ſcience is to reſcue our reaſoning powers from their unhappy ſlavery and darkneſs; and thus, with all due ſubmiſſion and deference, it offers an umble aſſiſtance to divine revelation. Its chief buſineſs is to relieve the natural weakneſſes of the mind by ſome better efforts of nature; it is to diffuſe a light over the underſtanding in our inquiries after truth,

and not to furniſh the tongue with debate and controverſy. *True logic* is not that noiſy thing that deals all in diſpute and wrangling, to which former ages had debaſed and confined it; yet its diſciples muſt acknowledge alſo, that they are taught to vindicate and defend the truth, as well as to ſearch it out. *True logic* doth not require a long detail of hard words to amuſe mankind, and to puff up the mind with empty ſounds, and a pride of falſe learning; yet ſome diſtinctions and terms of art are neceſſary to range every idea in its proper claſs, and to keep our thoughts from confuſion. The world is now grown ſo wiſe as not to ſuffer this valuable art to be engroſſed by the ſchools. In ſo polite and knowing an age, every *man of reaſon* will covet ſome acquaintance with *logic*, ſince it renders its daily ſervice to *wiſdom* and *virtue*, and to the affairs of *common life*, as well as to the *ſciences*.

I will not preſume, Sir, that this little book is improved ſince its firſt compoſure in proportion to the improvements of your manly age. But when you ſhall pleaſe to review it in your retired hours, perhaps you may refreſh your own memory in ſome of the early parts of *learning*: And if you find all the additional remarks and rules made ſo familiar to you already by your own obſervation, that there is nothing new among them, it will be no unpleaſing reflection that you have ſo far anticipated the preſent zeal and labour of,

SIR,

Your moſt Faithful, and

Obedient Servant,

LONDON, *Aug.* 24, 1724.

I. WATTS.

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INTRODUCTION.

INTRODUCTION,

AND

GENERAL SCHEME.

LOGIC is *the art of uſing* REASON * *well in our inquiries after truth, and the communication of it to others.*

REASON * is the glory of human nature, and one of the chief eminencies whereby we are raiſed above our fellow-creatures, the brutes, in this lower world.

Reaſon, as to the *power* and *principles* of it, is the common gift of God to all men; though all are not favoured with it by nature in an equal degree: But the *acquired improvements* of it, in different men, make a much greater diſtinction between them than nature had made. I could even venture to ſay, that the *improvement of reaſon* hath raiſed the learned and the prudent, in the European world, almoſt as much above the *Hottentots*, and other ſavages of *Africa*, as thoſe ſavages are by nature ſuperior to the birds, the beaſts, and the fiſhes.

Now, the *deſign of logic* is to teach us the right uſe of our *reaſon*, or *intellectual powers*, and the improvement of them in ourſelves and others; this is not only neceſſary, in order to attain any competent knowledge in the *ſciences*, or the affairs of

A learning,

* The word *reaſon*, in this place, is not confined to the mere faculty of reaſoning, or inferring one thing from another, but includes all the intellectual powers of man.

learning, but to govern both the greater and the meaner *actions of life*. It is the cultivation of our *reaſon*, by which we are better enabled to diſtinguiſh *good* from *evil*, as well as *truth* from *falſhood*: And both theſe are matters of the higheſt importance, whether we regard this life, or the life to come.

The *purſuit* and *acquiſition of truth* is of infinite concernment to mankind. Hereby we become acquainted with the nature of things, both in heaven and earth, and their various relations to each other. It is by this means we diſcover our duty to God and our fellow-creatures: By this we arrive at the knowledge of *natural religion*, and learn to confirm our faith in *divine revelation*, as well as to underſtand what is revealed. Our wiſdom, prudence, and piety, our preſent conduct, and our future hope, are all influenced by the uſe of our *rational powers* in the ſearch after *truth*.

There are ſeveral things that make it very neceſſary that our reaſon ſhould have ſome aſſiſtance in the exerciſe or *uſe* of it.

The firſt is, the *depth and difficulty of many truths*, and the *weakneſs of our reaſon to ſee far into things at once, and penetrate to the bottom of them*. It was a ſaying among the ancients, *Veritas in puteo*, "Truth "lies in a well;" and, to carry on this metaphor, we may very juſtly ſay, that *logic* does, as it were, ſupply us with ſteps whereby we may go down to reach the water; or it frames the links of a chain, whereby we may draw the water up from the bottom. Thus, by the means of many reaſonings well connected together, philoſophers in our age have drawn a thouſand truths out of the depths of darkneſs, which our fathers were utterly unacquainted with.

Another thing that makes it neceſſary for our reaſon to have ſome aſſiſtance given it, is the *diſguiſe and falſe colours in which many things appear to us in this*

this preſent imperfect ſtate: There are a thouſand things which are not in reality what they appear to be, and that both in the *natural* and the *moral* world: So the *ſun* appears to be flat as a plate of ſilver, and to be leſs than twelve inches in diameter: The *moon* appears to be as big as the *ſun*, and the rainbow appears to be a large ſubſtantial arch in the ſky; all which are in reality groſs falſhoods. So *knavery* puts on the face of *juſtice*, *hypocriſy* and *ſuperſtition* wear the vizard of *piety*, *deceit* and *evil* are often clothed in the ſhapes and appearances of *truth* and *goodneſs*. Now, logic helps us to ſtrip off the outward diſguiſe of things, and to behold them, and judge of them in their own nature.

There is yet a farther proof that our intellectual or rational *powers* need ſome aſſiſtance, and that is becauſe they are ſo frail and fallible in the preſent ſtate: We are impoſed upon *at home* as well as *abroad:* We are deceived by our *ſenſes*, by our *imaginations*, by our *paſſions* and *appetites*, by the *authority* of men, by education and cuſtom, &c. and we are led into frequent errors, by judging according to theſe falſe and flattering principles, rather than according to the nature of things. Something of this frailty is owing to our very *conſtitution*, man being compounded of fleſh and ſpirit: Something of it ariſes from our *infant-ſtate*, and our growing up by ſmall degrees to manhood, ſo that we form a thouſand judgments before our *reaſon* is mature. But there is ſtill more of it owing to our *original defection* from God, and the fooliſh and evil diſpoſitions that are found in fallen man: So that one great part of the *deſign of logic* is to guard us againſt the deluſive influences of our meaner powers, to cure the miſtakes of immature judgment, and to raiſe us in ſome meaſure from the ruins of our fall.

It is evident enough, from all theſe things, that our *reaſon* needs the aſſiſtance of *art* in our inquiries after *truth* or *duty;* and, without ſome ſkill and dili-

gence, in forming our judgments aright, we ſhall be led into frequent miſtakes, both in matters of *ſcience*, and in matters of *practice*; and ſome of theſe miſtakes may prove fatal too.

The *art of logic*, even as it aſſiſts us to gain the knowledge of the ſciences, leads us on toward virtue and happineſs; for all our *ſpeculative acquaintance with things* ſhould be made ſubſervient to our better *conduct in the civil and religious life*. This is infinitely more valuable than all ſpeculations; and a wiſe man will uſe them chiefly for this better purpoſe.

All the good judgment and prudence that any man exerts in his common concerns of life, without the advantage of learning, is called *natural logic*: And it is but a higher advancement, and a farther aſſiſtance of our rational powers, that is deſigned by, and expected from, this *artificial logic*.

In order to attain this, we muſt inquire what are the *principal operations of the mind*, which are put forth in the exerciſe of our reaſon? and we ſhall find them to be theſe four, namely, *perception*, *judgment*, *argumentation*, and *diſpoſition*.

Now, the *Art of Logic* is compoſed of thoſe obſervations and rules which men have made about theſe four operations of the mind, *perception*, *judgment*, *reaſoning*, and *diſpoſition*, in order to aſſiſt and improve them.

I. *Perception*, *conception*, or *apprehenſion*, is the mere ſimple contemplation of things offered to our minds, without affirming or denying any thing concerning them. So we conceive or think of *a horſe*, *a tree*, *high*, *ſwift*, *ſlow*, *animal*, *time*, *motion*, *matter*, *mind*, *life*, *death*, &c. The *form* under which theſe things appear to the mind, or the reſult of our conception or apprehenſion, is called an *idea*.

II. *Judgment* is that operation of the mind whereby we join two or more ideas together by one affirmation or negation; that is, we either affirm or deny

deny *this* to be *that*. So *This tree is high; That horſe is not ſwift; The mind of man is a thinking being; Mere matter has no thought belonging to it; God is juſt; Good men are often miſerable in this world; A righteous governor will make a difference betwixt the evil and the good*; which ſentences are the effect of judgment, and are called *propoſitions*.

III. *Argumentation* or *reaſoning* is that operation of the mind, whereby we infer one thing, that is, one propoſition from two or more propoſitions premiſed. Or, it is the drawing a concluſion, which before was either unknown, or dark, or doubtful, from ſome propoſitions which are more known and evident. So, when we have judged that *matter cannot think*, and that the *mind of man doth think*, we then infer and conclude, that *therefore the mind of man it not matter*.

So we judge, that *a juſt governor will make a difference between the evil and the good;* we judge alſo, that God is *a juſt governor;* and from thence we conclude, that *God will make a difference between the evil and the good*.

This argumentation may be carried on farther: Thus, *God will one time or another make a difference between the good and the evil:* But *there is little or no difference made in this world:* Therefore *there muſt be another world wherein this difference ſhall be made*.

Theſe *inferences* or *concluſions* are the effects of reaſoning; and the three propoſitions, taken all together, are all called a *ſyllogiſm* or *argument*.

IV. *Diſpoſition* is that operation of the mind, whereby we put the ideas, propoſitions, and arguments, which we have formed concerning one ſubject, into ſuch an order as is fitteſt to gain the cleareſt knowledge of it, to retain it longeſt, and to explain it to others in the beſt manner: Or, in ſhort, it is the ranging of our thoughts in ſuch order as is beſt for our own and others conception and memory. The effect of this operation is called *method*.

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The *art of logic*, even as it aſſiſts us to gain the knowledge of the ſciences, leads us on toward virtue and happineſs; for all our *ſpeculative acquaintance with things* ſhould be made ſubſervient to our better *conduct in the civil and religious life*. This is infinitely more valuable than all ſpeculations; and a wiſe man will uſe them chiefly for this better purpoſe.

All the good judgment and prudence that any man exerts in his common concerns of life, without the advantage of learning, is called *natural logic:* And it is but a higher advancement, and a farther aſſiſtance of our rational powers, that is deſigned by, and expected from, this *artificial logic*.

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This very *deſcription of the four operations of the mind and their effects, in this order*, is an inſtance or example of method.

Now, as the art of logic aſſiſts our conceptions, ſo it gives us a *large* and *comprehenſive* view of the ſubjects we inquire into, as well as a clear and diſtinct knowledge of them. As it regulates our *judgment* and our *reaſoning*, ſo it ſecures us from miſtakes, and gives us a *true* and *certain* knowledge of things; and, as it furniſhes us with *method*, ſo it makes our knowledge of things both *eaſy* and *regular*, and guards our thoughts from confuſion.

Logic is divided into four parts, according to theſe four operations of the mind, which it directs, and therefore we ſhall treat of it in this order.

LOGIC.

THE

FIRST PART

OF

LOGIC.

OF PERCEPTIONS AND IDEAS.

THE firſt part of *Logic* contains obſervations and precepts about the firſt operation of the mind, *perception* or *conception*: And, ſince all our knowledge, how wide and large ſoever it grow, is founded upon our conception and ideas, here we ſhall conſider,

1. *The general Nature of them.*
2. *The Objects of our Conception, or the Archetypes or Patterns of theſe Ideas.*
3. *The ſeveral Diviſions of them.*
4. *The Words and Terms whereby our Ideas are expreſſed.*
5. *General Directions about our Ideas.*
6. *Special Rules to direct our Conceptions.*

CHAP.

CHAP. I.

Of the Nature of IDEAS.

FIRST, the nature of conception or perception ſhall juſt be mentioned*, though this may ſeem to belong to another ſcience rather than *Logic*.

Perception is that act of the mind, (or, as ſome philoſophers call it), rather a *paſſion* or *impreſſion*, whereby the mind becomes conſcious of any thing; as, when I feel hunger, thirſt, or cold, or heat; when I ſee a horſe, a tree, or a man; when I hear a human voice, or thunder, I am conſcious of theſe things, and this is called *perception*. If I ſtudy, meditate, wiſh, or fear, I am conſcious of theſe inward acts alſo, and my mind perceives its own *thoughts, wiſhes, fears, &c.*

An *idea* is generally defined a *repreſentation* of *a thing in the mind*; it is a repreſentation of ſomething that we have *ſeen, felt heard*, &c. or *been conſcious of*. That notion, or form of a horſe, a tree, or a man, which is in the mind, is called the *idea* of a horſe, a tree, or a man.

That notion of hunger, cold, ſound, colour, thought, or wiſh, or fear, which is in the mind, is called the *idea* of hunger, cold, ſound, wiſh, *&c.*

It is not the outward object, or thing which is *perceived*, namely, the horſe, the man, *&c.* nor is it the very *perception* or *ſenſe*, and *feeling*, namely, of hunger, or cold, *&c.* which is called the *idea*; but it is the *thing as it exiſts in the mind* by way of con-

* *Note.* The words *conception* and *perception* are often uſed promiſcuouſly, as I have done here, becauſe I would not embarraſs a learner with too many diſtinctions; but, if I were to diſtinguiſh them, I would ſay, *perception* is the conſciouſneſs of an object when preſent; *conception* is the forming an idea of the object, whether preſent or abſent.

conception or repreſentation, that is properly called the *idea*, whether the object be preſent or abſent.

As a horſe, a man, a tree, are the outward objects of our perception, and the outward *archetypes* or *patterns* of our *ideas*; ſo our own ſenſations of hunger, cold, &c. are alſo inward *archetypes* or *patterns* of our *ideas*: But the *notions* or *pictures* of theſe things, as they are conſidered, or conceived in the mind, are preciſely the *ideas* that we have to do with in *Logic*. To *ſee* a horſe, or to *feel* cold, is one thing; to *think* of, and *converſe* about a man, a horſe, hunger, or cold, is another.

Among all theſe *ideas*, ſuch as repreſent *bodies* are generally called *images*, eſpecially if the idea of the ſhape be included. Thoſe inward repreſentations which we have of *ſpirit*, *thought*, *love*, *hatred*, *cauſe*, *effect*, &c. are more *pure* and *mental ideas*, belonging more eſpecially to the mind, and carry nothing of ſhape or ſenſe in them. But I ſhall have occaſion to ſpeak more particularly of the original and the diſtinction of *ideas* in the third chapter. I proceed therefore now to conſider the objects of our *ideas*.

CHAP. II.

Of the Objects of PERCEPTION.

SECT. I.

Of Being in general.

THE object of *perception* is that which is repreſented in the idea, that which is the *archetype* or *pattern*, according to which the idea is formed;

and thus *judgments*, *propoſitions*, *reaſons*, and *long diſcourſes*, may all become the objects of perception; but in this place we ſpeak chiefly of the *firſt* and more *ſimple* objects of it, before they are joined and formed into propoſitions or diſcourſes.

Every object of our idea is called a *theme*, whether it be a *being* or *not-being*; for *not-being* may be propoſed to our thoughts, as well as that which has a real being. But, let us firſt treat of *beings*, and that in the largeſt extent of the word.

A *being* is conſidered as *poſſible*, or as *actual*.

When it is conſidered as *poſſible*, it is ſaid to have an *eſſence* or *nature*; ſuch were *all things before their creation*: When it is conſidered as *actual*, then it is ſaid to have *exiſtence* alſo; ſuch are *all things which are created*, and God himſelf the Creator.

Eſſence, therefore, is but the very nature of any being, whether it be actually exiſting or no. A roſe in winter has an *eſſence*, in ſummer it has *exiſtence* alſo.

Note. There is but one Being which includes *exiſtence* in the very eſſence of it, and that is God, who therefore actually *exiſts* by natural and eternal neceſſity; but the actual exiſtence of every creature is very diſtinct from its *eſſence*, for it may *be*, or may *not be*, as God pleaſes.

Again, Every *being* is conſidered either as ſubſiſting in and by itſelf, and then it is called a *ſubſtance*; or it ſubſiſts in and by another, and then it is called a *mode* or *manner* of being; though few writers allow *mode* to be called a being in the ſame perfect ſenſe as a *ſubſtance* is; and ſome *modes* have evidently more of real *entity* or *being* than others, as will appear when we come to treat of them. Theſe things will furniſh us with matter for large diſcourſe in the following ſections.

SECT.

SECT. II.

Of SUBSTANCES, *and their various Kinds.*

A *Subſtance* is a being which can ſubſiſt by itſelf, without dependence upon any other created being. The notion of *ſubſiſting by itſelf* gives occaſion to logicians to call it a *ſubſtance*. So a horſe, a houſe, wood, ſtone, water, fire, a ſpirit, a body, an angel, are called *ſubſtances*, becauſe they depend on nothing but God for their exiſtence.

It has been uſual alſo, in the deſcription of *ſubſtance*, to add, it is that which is the ſubject of *modes* or *accidents*; a *body* is the ſubſtance or ſubject, its *ſhape* is the mode.

But, leſt we be led into miſtakes, let us here take notice, that, when a ſubſtance is ſaid to *ſubſiſt without dependence upon another created being*; all that we mean is, that it cannot be annihilated, or utterly deſtroyed and reduced to nothing, by any power inferior to that of our Creator; though its preſent particular form, nature, and properties, may be altered and deſtroyed by many inferior cauſes: A horſe may die, and turn to duſt; wood may be turned into fire, ſmoke, and aſhes; a houſe into rubbiſh, and water into ice or vapour; but the ſubſtance or matter of which they are made ſtill remains, though the forms and ſhapes of it are altered. A body may ceaſe to be a houſe or a horſe, but it is a body ſtill; and in this ſenſe it depends only upon God for its exiſtence.

Among *ſubſtances*, ſome are *thinking* or conſcious beings, or have a power of thought, ſuch as the

mind of man, *God*, *angels*. Some are *extended* and *ſolid*, or *impenetrable*, that is, they have dimenſions of length, breadth, and depth, and have alſo a power of reſiſtance, or to exclude every thing of the ſame kind from being in the ſame place. This is the proper character of *matter* or *body*.

As for the idea of *Space*, whether it be *void* or *full*, that is, a *vacuum* or a *plenum*, whether it be interſperſed among all bodies, or may be ſuppoſed to reach beyond the bounds of the creation, it is an argument too long and too hard to be diſputed in this place what the nature of it is: It has been much debated whether it be a real ſubſtance, or a mere conception of the mind; whether it be the immenſity of the divine nature, or the mere order of co-exiſtent beings; whether it be the manner of our conception of the diſtances of bodies, or a mere nothing. Therefore I drop the mention of it here, and refer the reader to the *firſt eſſay* among the *Philoſophical Eſſays*, by *I. W.* publiſhed 1733.

Now, if we ſeclude Space out of our conſideration, there will remain but two ſorts of ſubſtances in the world, that is, *Matter* and *Mind*, or, as we otherwiſe call them, *Body* and *Spirit*; at leaſt we have no ideas of any other ſubſtance but theſe *.

Among ſubſtances, ſome are called *ſimple*, ſome are *compound*, whether the words be taken in a *philoſophical* or a *vulgar* ſenſe.

Simple

* Becauſe men have different ideas and notions of *Subſtance*, I thought it not proper intirely to omit all accounts of them, and therefore have thrown them into the margin.

Some philoſophers ſuppoſe that our acquaintance with *matter* or *mind* reaches no farther than the mere properties of them, and that there is a ſort of unknown being, which is the *ſubſtance* or the *ſubject* by which theſe properties of *ſolid extenſion* and of *cogitation* are ſupported, and in which theſe properties inhere or exiſt. But perhaps this notion ariſes only from our turning the mere abſtracted or *logical* notion of *ſubſtance* or *ſelf-ſubſiſting* into the notion of a diſtinct *phyſical* or

Simple ſubſtances, in a *philoſophical ſenſe*, are either *ſpirits*, which have no manner of compoſition in them, and in this ſenſe GOD is called a *ſimple being*; or they are the firſt principles of bodies, which are uſually called *elements*, of which all other bodies are compounded: *Elements* are ſuch ſubſtances as cannot be reſolved, or reduced, into two or more ſubſtances of different kinds.

The various ſects of philoſophers have attributed the

natural being, without any neceſſity. Solid extenſion ſeems, to me, to be the very ſubſtance of *matter*, or of all bodies; and a *power of thinking, which is always in act*, ſeems to be the very ſubſtance of all *ſpirits*; for *God* himſelf is an intelligent almighty power; nor is there any need to ſeek for any other ſecret and unknown being, or *abſtracted ſubſtance*, intirely diſtinct from theſe, in order to ſupport the ſeveral modes or properties of matter or mind, for theſe two ideas are ſufficient for that purpoſe; therefore I rather think theſe are *ſubſtances*.

It muſt be confeſſed, when we ſay, *Spirit is a thinking ſubſtance*, and *Matter is an extended ſolid ſubſtance*, we are ſometimes ready to imagine that extenſion and ſolidity are but mere modes and properties of a certain unknown ſubſtance or ſubject which ſupports them, and which we call *body*; and that a power of thinking is but a mere mode and property of ſome unknown ſubſtance or ſubject which ſupports it, and which we call *ſpirit*: But I rather take this to be a mere miſtake, which we are led into by the grammatical form and uſe of words; and perhaps our logical way of thinking by *ſubſtances* and *modes*, as well as our grammatical way of talking by *ſubſtantives* and *adjectives*, help to delude us into the ſuppoſition.

However, that I may not be wanting to any of my readers, I would let them know Mr. *Locke's* opinion, which has obtained much in the preſent age; and it is this: "That our idea of "any particular ſubſtance is only ſuch a combination of ſim- "ple ideas as repreſent that thing as ſubſiſting by itſelf, in "which the ſuppoſed or confuſed idea of ſubſtance (ſuch as "it is) is always ready to offer itſelf. It is a conjunction "of ideas co-exiſting in ſuch a cauſe of their union, and "makes the whole ſubject ſubſiſt by itſelf, tho' the cauſe "of their union be unknown; and our general idea of ſub- "ſtance ariſes from the ſelf-ſubſiſtence of this collection of "ideas."

the honour of this name to various things. The Peripatetic, or followers of *Ariſtotle*, made *Fire*, *Air*, *Earth*, and *Water*, to be the four elements of which all earthly things were compounded; and they ſuppoſed the heavens to be a *quinteſſence*, or *fifth* ſort of body, diſtinct from all theſe: But, ſince experimental philoſophy and mathematics have been better underſtood, this doctrine has been abundantly refuted. The *Chemiſts* make *Spirit*, *Salt*, *Sulphur*, *Water*, and *Earth*, to be their *five* elements, becauſe they can reduce all terreſtrial things to theſe five: This ſeems to come nearer the truth; though they are not all agreed in this enumeration of elements. In ſhort, our modern philpſophers generally ſuppoſe *matter* or *body* to be one ſimple principle, or *ſolid extenſion*, which being diverſified by its various ſhapes, quantities, motions, and ſituations, makes all the varieties that are found in the univerſe;

Now, if this notion of ſubſtance reſt here, and be conſidered merely as an unknown cauſe of the union of properties, it is much more eaſy to be admitted; but, if we proceed to ſuppoſe a ſort of real, ſubſtantial, diſtinct being, different from ſolid *quantity* or *extenſion* in bodies, and different from a *power of thinking* in ſpirits, in my opinion it is the introduction of a needleſs ſcholaſtical notion into the real nature of things, and then fancying it to have a real exiſtence.

Mr. *Locke*, in his *Eſſay of Human Underſtanding*, Book II. chap. 22. §. 2. ſeems to ridicule this common idea of *ſubſtance*, which men have generally ſuppoſed to be a ſort of *ſubſtratum*, diſtinct from all properties whatſoever, and to be the ſupport of all properties. Yet, in Book IV. chap. 3. §. 6. he ſeems to ſuppoſe there may be ſuch an unknown *ſubſtratum*, which may be capable of receiving the properties both of *matter* and of *mind*, namely, *extenſion*, *ſolidity*, and *cogitation*; for he ſuppoſes it poſſible for *God* to add *cogitation* to that *ſubſtance* which is *corporeal*, and thus to cauſe *matter to think*. If this be true, then ſpirits (for ought we know) may be *corporeal beings*, or *thinking bodies*, which is a doctrine too favourable to the *mortality of the ſoul*. But I leave theſe debates to the philoſophers of the age, and will not be too poſitive in my opinion of this abſtruſe ſubject.

See more of this argument in *Philoſophical Eſſays*, before cited, *Eſſay* 2d.

univerſe; and therefore they make little uſe of the word *element*.

Compound ſubſtances are made up of two or more *ſimple* ſubſtances: So every thing in this whole material creation, that can be reduced by the art of man into two or more different principles or ſubſtances, is a *compound body* in the philoſophical ſenſe.

But, if we take the words *ſimple* and *compound* in a vulgar ſenſe, then all thoſe are ſimple ſubſtances which are generally eſteemed uniform in their natures. So every herb is called a *ſimple*, and every metal a *mineral*; though the chemiſt perhaps may find all his ſeveral elements in each of them. So a needle is a *ſimple* body, being only made of ſteel; but a ſword or a knife is a *compound*, becauſe its haft or handle is made of materials different from the blade. So the *Bark of Peru*, or the *Juice* of *Sorrel*, is a *ſimple* medicine: But, when the apothecary's art has mingled ſeveral ſimples together, it becomes a *compound*, as *Diaſcordium*, or *Mithridate*.

The terms of *pure* and *mixt*, when applied to bodies, are much akin to *ſimple* and *compound*. So a guinea is *pure* gold, if it has nothing but gold in it, without any alloy of baſer metal: But, if any other mineral or metal be mingled with it, it is called a *mixt* ſubſtance or body.

Subſtances are alſo divided into *animate* and *inanimate*. Animated ſubſtances are either *animal* or *vegetable**.

Some of the *animal ſubſtances* have various organical or inſtrumental parts, fitted for a variety of motions from place to place, and a ſpring of life within themſelves, as beaſts, birds, fiſhes, and inſects; theſe are called *animals*. Other *animated ſubſtances*

* *Note*, *Vegetables*, as well as *animals*, have gotten the name of *animated* ſubſtances, becauſe ſome of the ancients ſuppoſed herbs and plants, beaſts and birds, &c. to have a ſort of *ſoul* diſtinct from matter, or *body*.

ſubſtances are called *vegetables*, which have within themſelves the principles of another ſort of life and growth, and of various productions of leaves, flowers, and fruit, ſuch as we ſee in plants, herbs, and trees.

And there are other ſubſtances, which are called *inanimate*, becauſe they have no ſort of life in them, as earth, ſtone, air, water, *&c.*

There is alſo one ſort of ſubſtance, or being, which is *compounded* of *body* and *mind*, or a rational ſpirit united to an animal; ſuch is mankind. *Angels*, or any other beings of the ſpiritual and inviſible world, who have aſſumed viſible ſhapes for a ſeaſon, can hardly be reckoned among this order of compounded beings; becauſe they drop their bodies, and diveſt themſelves of thoſe viſible ſhapes, when their particular meſſage is performed, and thereby ſhew that theſe bodies do not belong to their natures.

SECT. III.

Of MODES, *and their various kinds, and firſt of eſſential and accidental Modes.*

THE next ſort of objects which are repreſented in our ideas, are called *modes* or *manners of being* *.

A

* *Note*, The term *mode* is by ſome authors applied chiefly to the *relations*, or relative manners of being. But, in logical treatiſes, it is often uſed in a larger ſenſe, and extends to all *attributes* whatſoever, and includes the moſt eſſential and inward properties, as well as outward reſpects and relations, and reaches to *actions* themſelves, as well as *manners* of action.

A *mode* is that which cannot ſubſiſt in and of itſelf, but is always eſteemed as belonging to, and ſubſiſting by the help of ſome *ſubſtance*, which for that reaſon is called its *ſubject*. A mode muſt depend on that ſubſtance for its very exiſtence and being; and that not as a being depends on its *cauſe*, (for ſo *ſubſtances* themſelves depend on GOD their Creator); but the *very being of a mode* depends on ſome ſubſtance for its *ſubject*, in which it is, or to which it belongs; ſo motion, ſhape, quantity, weight, are *modes* of the *body*; knowledge, wit, folly, love, doubting, judging, are *modes* of the *mind*; for the one cannot ſubſiſt without *body*, and the other cannot ſubſiſt without *mind*.

Modes have their ſeveral diviſions, as well as ſubſtances.

I. Modes are either *eſſential* or *accidental*.

An *eſſential mode* or *attribute*, is that which belongs to the very nature or eſſence of the ſubject wherein it is; and the ſubject can never have the ſame nature without it; ſuch is *roundneſs* in a bowl, *hardneſs* in a ſtone, *ſoftneſs* in water, *vital motion* in an animal, *ſolidity* in matter, *thinking* in a ſpirit; for, though that piece of wood which is now a bowl may be made *ſquare*, yet, if *roundneſs* be taken away, it is no longer a bowl: So that very fleſh and bones, which is now an *animal*, may be without *life* or inward motion; but, if all motion be entirely gone, it is no longer an animal, but a carcaſs: So, if a *body* or matter be diveſted of *ſolidity*, it is a mere void ſpace, or nothing; and, if *ſpirit* be entirely without *thinking*, I have no idea of any thing that is left in it; therefore, ſo far as I am able to judge, *conſciouſneſs* muſt be its eſſential attribute †. Thus, all the perfections of GOD are called his *attributes*, for he cannot be without them.

An *eſſential mode* is either *primary* or *ſecondary*.

A

† *Note*, When I call ſolid extenſion an eſſential *mode* or at-

A *primary eſſential mode* is the firſt or chief thing that conſtitutes any being in its particular eſſence or nature, and makes it to be that which it is, and diſtinguiſhes it from all other beings: This is called the *difference* in the definition of things; of which hereafter: So *roundneſs* is the primary eſſential mode or difference of a bowl; the *meeting* of *two lines* is the primary eſſential mode, or the difference of an *angle*; the *perpendicularity* of theſe lines to each other is the difference of a *right angle*: *Solid extenſion* is the primary attribute or difference of *matter*: *Conſciouſneſs*, or at leaſt a *power of thinking*, is the difference or primary attribute of a *ſpirit* *; and to *fear* and *love* GOD is the primary attribute of a *pious man*.

A *ſecondary eſſential mode* is any other attribute of a thing which is not of primary conſideration: This is called a *property*: Sometimes indeed it goes towards making up the eſſence, eſpecially of a *complex being*, ſo far as we are acquainted with it; ſometimes it depends upon, and follows from the eſſence of it; ſo, *volubility*, or *aptneſs* to roll, is the property of a bowl, and is derived from its *roundneſs*. *Mobility*, and *figure*, or *ſhape*, are properties of *matter*; and it is the property of a *pious man* to *love his neighbour*.

An *accidental mode*, or an *accident*, is ſuch a mode as is not *neceſſary* to the being of a thing, for the ſubject may be without it, and yet remain of the ſame nature that it was before, or it is that mode which may be ſeparated or aboliſhed from its ſubject;

tribute of *matter*, and a power of thinking an eſſential *mode* or attribute of a *ſpirit*, I do it in compliance with common forms of ſpeech: But perhaps in reality theſe are the very *eſſences* or *ſubſtances* themſelves, and the moſt ſubſtantial ideas that we can form of *body* and *ſpirit*, and have no need of any (we know not what) *ſubſtratum*, or unintelligible ſubſtance, to ſupport them in their exiſtence or being.

* See preceding Note.

ject: So, *ſmoothneſs* or *roughneſs*, *blackneſs* or *whiteneſs*, *motion* or *reſt*, are the accidents of a bowl; for theſe may be all changed, and yet the body remain a bowl ſtill: *Learning*, *juſtice*, *folly*, *ſickneſs*, *health*, are the accidents of a *man*: *Motion*, *ſquareneſs*, or any *particular ſhape* or *ſize*, are the accidents of *body*: Yet, *ſhape* and *ſize*, in general, are eſſential modes of it; for a body muſt have ſome ſize and ſhape; nor can it be without them: So, *hope*, *fear*, *wiſhing*, *aſſenting*, and *doubting*, are accidents of the *mind*, though *thinking* in general ſeems to be *eſſential* to it

Here obſerve, that the name of *accident* has been oftentimes given by the old Peripatetic philoſophers to all modes, whether eſſential or accidental; but the moderns confine this word *accident* to the ſenſe in which I have deſcribed it.

Here it ſhould be noted alſo, that, though the word *property* be limited ſometimes, in logical treatiſes, to the *ſecondary eſſential mode*, yet it is uſed in common language to ſignify theſe four ſorts of *modes*: of which ſome are *eſſential*, and ſome *accidental*.

1. Such as belong to *every* ſubject of that kind, but *not only* to thoſe ſubjects. So, *yellow colour*, and *ductility*, are properties of gold; they belong to *all* gold, but not *only* to gold; for ſaffron is alſo *yellow*, and lead is *ductile*.

2. Such as belong only to *one* kind of ſubject, but not to *every* ſubject of that kind. So, *learning*, *reading*, and *writing*, are properties of *human nature*; they belong only to man, but *not* to *all* men.

3. Such as belong to *every* ſubject of one kind, and *only* to them, but *not always*. So, *ſpeech* or *language* is a property of *man*, for it belongs to *all* men, and to men *only*; but men are *not always* ſpeaking.

4. Such as belong to *every* ſubject of one kind, and to them *only* and *always*. So, *ſhape* and *diviſibility* are properties of *body*; ſo *omniſcience* and *omnipotence*

potence are properties of *divine Nature*; for in this ſenſe properties and attributes are the ſame; and, except in logical treatiſes, there is ſcarce any diſtinction made between them. Theſe are called *propria quarto modo* in the ſchools, or *properties of the fourth ſort.*

Note. Where there is any one *property* or *eſſential attribute* ſo ſuperior to the reſt, that it appears plainly that all the reſt are derived from it, and ſuch as is ſufficient to give a full diſtinction of that ſubject from all other ſubjects, this attribute or property is called the *eſſential difference*, as is before declared; and we commonly ſay, the *eſſence* of the thing conſiſts in it; ſo the *eſſence of matter* in general ſeems to conſiſt in *ſolidity*, or *ſolid extenſion.* But, for the moſt part, we are ſo much at a loſs in finding out the intimate eſſence of particular natural bodies, that we are forced to diſtinguiſh the *eſſential difference* of moſt things by a *combination* of properties. So a *ſparrow* is a bird which has ſuch coloured feathers, and ſuch a particular ſize, ſhape and motion. So *wormwood* is an herb which has ſuch a leaf of ſuch a colour, and ſhape, and taſte, and ſuch a root and ſtalk. So beaſts and fiſhes, minerals, metals, and works of art ſometimes, as well as of nature, are diſtinguiſhed by ſuch a *collection of properties.*

SECT. IV.

The farther diviſions of MODE.

THE *ſecond* diviſion of Modes is into *abſolute and relative.* An *abſolute mode* is that which belongs to its ſubject, without reſpect to any other beings whatſoever: But a *relative mode* is derived from the regard that one being has to others. So *roundneſs* and *ſmoothneſs* are the *abſolute* modes of a bowl;

bowl; for, if there were nothing elſe exiſting in the whole creation, a bowl might be *round* and *ſmooth:* But *greatneſs* and *ſmallneſs* are relative modes; for the very ideas of them are derived merely from the compariſon of one being with others: A bowl of four inches deameter is *very great* compared with with one of an inch and a half; but it is *very ſmall* in compariſon of another bowl whoſe diameter is eighteen or twenty inches. *Motion* is the abſolute mode of a body, but *ſwiftneſs* or *ſlowneſs* are relative ideas; for the motion of a bowl on a bowling-green is *ſwift*, when compared with a ſnail; and it is *ſlow* when compared with a cannon-bullet.

Theſe *relative modes* are largely treated of by ſome logical and metaphyſical writers, under the name of *relations:* And theſe relations themſelves are farther ſubdivided into *ſuch as ariſe from the nature of things*, and *ſuch as ariſe merely from the operation of our minds;* one ſort are called *real relations*, the other *mental;* ſo the *likeneſs* of one egg to another is a *real* relation, becauſe it ariſes from the real nature of things; for, whether there was any man or mind to conceive it or no, one egg would be like another: But, when we conſider an egg as a *noun ſubſtantive* in grammar, or as ſignified by the letters *e g g*, theſe are *mere mental* relations, and derive their very nature from the mind of man. Theſe ſort of relations are called by the ſchools *entia rationis*, or *ſecond notions*, which have no real being, but depend entirely on the operation of the mind.

III. The *third* diviſion of modes ſhew us they are either *intrinſical*, or *extrinſical. Intrinſical modes* are conceived to be in the ſubject or ſubſtance, as when we ſay a globe is *round*, or *ſwift*, *rolling*, or at *reſt:* Or, when we ſay a man is *tall*, or *learned*, theſe are *intrinſic modes:* But, *extrinſic modes* are ſuch as ariſe from ſomething that is not in the ſubject or ſubſtance itſelf; but it is a manner of being which ſome

ſome ſubſtances attain by reaſon of ſomething that is external or foreign to the ſubject; as, *this globe lies within two yards of the wall;* or, *This man is beloved,* or *hated. Note.* Such ſort of modes as this laſt example are called *external denominations.*

IV. There is a *fourth* diviſion much akin to this, whereby modes are ſaid to be *inherent* or *adherent,* that is, *proper* or *improper. Adherent* or *improper modes* ariſe from the joining of ſome accidental ſubſtance to the chief ſubject, which yet may be ſeparated from it; ſo when a *bowl is wet,* or a *boy is clothed,* theſe are *adherent modes;* for the water and the clothes are diſtinct ſubſtances, which adhere to the *bowl,* or to the *boy:* But, when we ſay the *bowl is ſwift* or *round,* when we ſay the *boy is ſtrong* or *witty,* theſe are proper or *inherent modes,* for they have a ſort of *in-being* in the ſubſtance itſelf, and do not ariſe from the addition of any other ſubſtance to it.

V. *Action* and *paſſion* are modes or manners which belong to ſubſtances, and ſhould not entirely be omitted here. When a *ſmith* with a *hammer* ſtrikes a piece of *iron,* the *hammer* and the *ſmith* are both *agents* or ſubjects of action; the one is the *prime* or *ſupreme,* the other the *ſubordinate:* The iron is the *patient,* or the ſubject of paſſion, in a philoſophical ſenſe, becauſe it receives the operation of the agent; though this ſenſe of the words *paſſion* and *patient* differs much from the vulgar meaning of them *.

VI. The *ſixth* diviſion of modes may be into *phyſical,* that is, *natural, civil, moral,* and *ſupernatural.* So when we conſider the apoſtle *Paul,* who was a little man, a Roman by the privilege of his birth,

a

* *Note. Agent* ſignifies the *doer, patient* the *ſufferer, action* is *doing, paſſion* is *ſuffering:* Agent and action have retained their original philoſophical ſenſe, though patient and paſſion have acquired a very different meaning in common language.

a man of virtue or honeſty, and an inſpired apoſtle; his *low ſtature* is a *phyſical* mode, his being a *Roman* is a *civil* privilege, his *honeſty* is a *moral* conſideration, and his being *inſpired* is *ſupernatural*.

VII. Modes belong either to *body* or to *ſpirit*, or to *both*. *Modes of body* belong only to matter or to corporeal beings; and theſe are *ſhape*, *ſize*, *ſituation* or *place*, &c. *Modes of ſpirit* belong only to minds; ſuch are *knowledge*, *aſſent*, *diſſent*, *doubting*, *reaſoning*, &c. Modes which belong to both have been ſometimes called *mixed modes*, or *human modes*, for theſe are only found in human nature, which is compounded both of body and ſpirit; ſuch are *ſenſation*, *imagination*, *paſſion*, &c. in all which there is a concurrence of the operations both of mind and body, that is of animal and intellectual nature.

But the *modes of body* may be yet farther diſtinguiſhed. Some of them are *primary modes* or *qualities*, for they belong to bodies conſidered in themſelves, whether there were any man to take notice of them or no; ſuch are thoſe before-mentioned, namely, *ſhape*, *ſize*, *ſituation*, &c. *Secondary qualities*, or *modes*, are ſuch ideas as we aſcribe to bodies on account of the various impreſſions which are made on the ſenſes of men by them; and theſe are called *ſenſible qualities*, which are very numerous; ſuch are all *colours*, as *red*, *green*, *blue*, &c. ſuch are all *ſounds*, as *ſharp*, *ſhrill*, *loud*, *hoarſe*; all *taſtes*, as *ſweet*, *bitter*, *ſour*; all *ſmells*, whether *pleaſant*, *offenſive*, or *indifferent*; and all *tactile qualities*, or ſuch as affect the *touch* or *feeling*, namely, *heat*, *cold*, &c. Theſe are properly called *ſecondary qualities*; for, though we are ready to conceive them as exiſting in the very bodies themſelves which affect our ſenſes, yet true philoſphy has moſt undeniably proved, that all theſe are really various ideas or perceptions excited in human nature by the different impreſſions that bodies make upon our ſenſes by their *primary modes*, that is, by means of

of the different ſhape, ſize, motion, and poſition, of thoſe little inviſible parts that compoſe them. Thence it follows that a *ſecondary quality*, conſidered as in the bodies themſelves, is nothing elſe but a power or aptitude to produce ſuch ſenſations in us: See *Locke's Eſſay on the Underſtanding*, Book II. Chap. 8.

VIII. I might add, in the laſt place, that, as *modes* belong to *ſubſtances*, ſo there are ſome alſo that are but *modes of other modes*: For, though they ſubſiſt in and by the *ſubſtance*, as the original ſubject of them, yet they are properly and directly attributed to ſome mode of that ſubſtance. *Motion* is the mode of a body; but the *ſwiftneſs* or *ſlowneſs* of it, or its *direction to the north or ſouth*, are but modes of motion. *Walking* is the mode or manner of a man, or of a beaſt; but *walking gracefully* implies a manner or mode ſuperadded to that action. All comparative and ſuperlative degrees, of any quality, are the *modes of a mode*, as *ſwifter* implies a greater *meaſure of ſwiftneſs*.

It would be too tedious here to run through all the *modes*, *accidents*, and *relations*, at large, that belong to various beings, and are copiouſly treated of in *general*, in the ſcience called *Metaphyſics*, or, more properly *Ontology*: They are alſo treated of, in *particular*, in thoſe ſciences which have aſſumed them ſeverally as their proper ſubjects.

SECT. V.

Of the ten Categories. Of Subſtance modified.

WE have thus given an account of the two chief objects of our ideas, namely, *ſubſtances* and *modes*, and, their various kinds; and in theſe laſt

ſections we have briefly compriſed the greateſt part of what is neceſſary in the famous ten ranks of being, called the ten *predicaments* or *categories* of *Ariſtotle*, on which there are endleſs volumes of diſcourſes formed by ſeveral of his followers. But that the reader may not utterly be ignorant of them, let him know the names are theſe: *Subſtance, quantity, quality, relation, action, paſſion, where, when, ſituation*, and *cloathing*. It would be mere loſs of time to ſhew how looſe, how injudicious, and even ridiculous, this tenfold diviſion of things is: And whatſoever farther relates to them, and which may tend to improve uſeful knowledge, ſhould be ſought in *Ontology*, and in other ſciences.

Beſides *ſubſtance* and *mode*, ſome of the moderns would have us conſider the *ſubſtance modified* as a diſtinct object of our ideas; but I think there is nothing more that need be ſaid on this ſubject, than this, namely, There is ſome difference between a ſubſtance, when it is conſidered *with all its modes* about it, or clothed in all its manners of exiſtence, and when it is diſtinguiſhed from them, and conſidered naked *without them*.

SECT. IV.

Of Not-Being.

AS *being* is divided into *ſubſtance* and *mode*, ſo we may conſider *not-being* with regard to both theſe.

I. *Not-being* is conſidered as excluding all ſubſtance, and then all modes are alſo neceſſarily excluded; and this we call *pure nihility*, or *mere nothing*.

This *nothing* is taken either in a *vulgar* or a *philoſophical* ſenſe; ſo we ſay, *There is nothing in the cup* in a vulgar ſenſe, when we mean there is no *liquor*

in it; but we cannot ſay, *There is nothing in the cup,* in a ſtrict philoſophical ſenſe, where there is *air* in it, and perhaps a million of *rays of light* are there.

II. *Not-being,* as it has relation to *modes* or manners of *being,* may be conſidered either as a mere *negation,* or as a *privation.*

A *negation* is the abſence of that which does not naturally belong to the thing we are ſpeaking of, or which has no right, obligation, or neceſſity, to be preſent with it; as, when we ſay, *a ſtone is inanimate,* or *blind,* or *deaf;* that is, it has no *life,* nor *ſight,* nor *hearing;* nor when we ſay, a *carpenter* or a *fiſherman* is *unlearned,* theſe are mere *negations.*

But a *privation* is the abſence of what does naturally belong to the thing we are ſpeaking of, or which ought to be preſent with it; as when a *man* or a *horſe* is *deaf,* or *blind,* or *dead;* or if a *phyſician* or a *divine* be unlearned, theſe are called *privations:* So the *ſinfulneſs* of any human action is ſaid to be a *privation;* for *ſin* is that want of conformity to the law of God which ought to be found in every action of man.

Note. There are ſome writers who make all ſorts of *relative modes* or *relations,* as well as all external denominations, to be mere creatures of the mind, and *entia rationis,* and then they rank them alſo under the general head of *not-beings;* but it is my opinion, that whatſoever may be determined concerning mere mental relations and external denominations, which ſeem to have ſomething leſs of entity or being in them, yet there are many *real relations,* which ought not to be reduced to ſo low a claſs; ſuch are the *ſituation* of bodies, their mutual *diſtances,* their particular *proportions* and *meaſures,* the notions of *fatherhood, brotherhood, ſonſhip,* &c. all which are relative ideas. The very eſſence of *virtues* or *holineſs* conſiſts in the conformity of our actions to the rule of right reaſon, or the law of God: The nature and eſſence of *ſincerity,* is the conformity

conformity of our words and actions to our thoughts, all which are but *mere relations*; and I think we muſt not reduce ſuch poſitive beings as *piety*, and *virtue*, and *truth*, to the rank of non-entities, which have nothing real in them, though *ſin*, (or rather the ſinfulneſs of an action), may be properly called a not-being; for it is a want of piety and virtue. This is the moſt uſual, and perhaps the juſteſt way of repreſenting theſe matters.

CHAP. III.

Of the ſeveral Sorts of Perceptions or Ideas.

IDEAS may be divided with regard to their *original*, their *nature*, their *objects*, and their *qualities*.

SECT. I.

Of Senſible, Spiritual, and Abſtracted Ideas.

THERE has been a great controverſy about the *origin* of ideas, namely, whether any of our ideas are *innate* or no, that is, born with us, and naturally belonging to our minds. Mr. Locke utterly denies it; others as poſſitively affirm it. Now, though this controverſy may be compromiſed, by allowing that there is a ſenſe wherein our firſt ideas of ſome things may be ſaid to be innate, (as I have ſhewn in ſome remarks on Mr Locke's Eſſay, which have lain long by me), yet it does not belong to this place and buſineſs to have that point debated at large, nor will it hinder our purſuit of the preſent work to paſs over it in ſilence.

There is ſufficient ground to ſay, that all our ideas, with regard to their original, may be divided into three ſorts, namely, *ſenſible*, *ſpiritual*, and *abſtracted* ideas.

I. *Senſible* or *corporeal ideas*, are derived originally from our ſenſes, and from the communication which the ſoul has with the animal body in this preſent ſtate; ſuch are the notions we frame of all *colours*, *ſounds*, *taſtes*, *figures*, or *ſhapes* and *motions*; for our ſenſes being converſant about particular ſenſible objects, become the occaſions of ſeveral diſtinct perceptions in the mind; and thus we come by the ideas of *yellow*, *white*, *heat*, *cold*, *ſoft*, *hard*, *bitter*, *ſweet*, and all thoſe which we call *ſenſible* qualities. All the ideas which we have of *body*, and the ſenſible modes and properties that belong to it, ſeem to be derived from *ſenſation*.

And howſoever theſe may be treaſured up in the memory, and by the work of fancy may be increaſed, diminiſhed, compounded, divided, and diverſified, (which we are ready to call *our invention*), yet they all derive their firſt nature and being from ſomething that has been let into our minds by one or other of our ſenſes. If I think of a *golden mountain*, or a *ſea of liquid fire*, yet the ſingle ideas of *ſea*, *fire*, *mountain*, and *gold*, came into my thoughts at firſt by ſenſation; the mind has only compounded them.

II. *Spiritual* * or *intellectual ideas*, are thoſe which we gain by reflecting on the nature and actions of our own ſouls, and turning our thoughts within ourſelves, and obſerving what is tranſacted in our own minds. Such are the ideas we have of *thought*, *aſſent*, *diſſent*, *judging*, *reaſon*, *knowledge*, *underſtanding*, *will*, *love*, *fear*, *hope*.

By *ſenſation* the ſoul contemplates things (as it were) out of itſelf, and gains corporeal repreſentations or ſenſible ideas: By *reflection*, the ſoul contemplates itſelf, and things within itſelf, and by this means it gains ſpiritual ideas, or repreſentations of things intellectual.

Here

* Here the word *ſpiritual* is uſed in a mere natural, and not in a religious ſenſe.

Here it may be noted, though the firſt original of theſe two ſorts of ideas, namely, *ſenſible* and *ſpiritual*, may be intirely owing to theſe two principles, ſenſation, and reflection, yet the *recollection*, and freſh excitation of them, may be owing to a thouſand other occaſions and occurrences of life. We could never inform a man who was born blind or deaf what we mean by the words *yellow*, *blue*, *red*, or by the words *loud* or *ſhrill*, nor convey any juſt ideas of theſe things to his mind, by all the powers of language, unleſs he has experienced thoſe ſenſations of ſound and colour; nor could we ever gain the ideas of *thought*, *judgment*, *reaſon*, *doubting*, *hoping*, &c. by all the words that man could invent, without turning our thoughts inward upon the actions of our own ſouls. Yet, when once we have attained theſe ideas, by ſenſation and reflection, they may be excited afreſh by the uſe of names, words, ſigns, or by any thing elſe that has been connected with them in our thoughts; for, when two or more ideas have been aſſociated together, whether it be by cuſtom, or accident, or deſign, the one preſently brings the other to mind.

III. Beſides theſe two which we have named, there is a *third* ſort of ideas, which are commonly called *abſtracted ideas*, becauſe, though the original ground or occaſion of them may be ſenſation, or reflection, or both, yet theſe ideas are framed by another act of the mind, which we uſually call *abſtraction*. Now, the word abſtraction ſignifies *a withdrawing ſome parts of an idea from other parts of of it*, by which means ſuch abſtracted ideas are formed, as neither repreſent any thing corporeal or ſpiritual, that is, any thing peculiar or proper to mind or body. Now theſe are of two kinds.

Some of theſe abſtracted ideas are the moſt *abſolute*, general and univerſal conceptions of things, conſidered in themſelves, without reſpect to others,

ſuch as *entity* or *being*, and *not-being*, *eſſence*, *exiſtence*, *act*, *power*, *ſubſtance*, *mode*, *accident*, &c.

The other ſort of abſtracted ideas is *relative*, as when we compare ſeveral things together, and conſider merely the relations of one thing to another, entirely dropping the ſubject of thoſe relations, whether they be corporeal or ſpiritual; ſuch are our ideas of *cauſe*, *effect*, *likeneſs*, *unlikeneſs*, *ſubject*, *object*, *identity*, or *ſameneſs*, and *contrariety*, *order*, and other things which are treated of in *Ontology*.

Moſt of the terms of art, in ſeveral ſciences, may be ranked under this head of *abſtracted ideas*, as *noun*, *pronoun*, *verb*, in grammar, and the ſeveral particles of ſpeech, as *wherefore*, *therefore*, *when*, *how*, *although*, *howſoever*, &c. So *connections*, *tranſitions*, *ſimilitudes*, *tropes*, and their various forms in rhetoric.

Theſe abſtracted ideas, whether abſolute or relative, cannot ſo properly be ſaid to derive their immediate, complete, and diſtinct original, either from ſenſation, or reflection, (1.) Becauſe the nature and the actions, both of body and ſpirit, give us occaſion to frame exactly the ſame ideas of *eſſence*, *mode*, *cauſe*, *effect*, *likeneſs*, *contrariety*, &c. Therefore theſe cannot be called either *ſenſible* or *ſpiritual* ideas, for they are not exact repreſentations, either of the peculiar qualities or actions of ſpirit or body, but ſeem to be a diſtinct kind of idea framed in the mind, to repreſent our moſt general conceptions of things, or their relations to one another, without any regard to their natures, whether they be *corporeal* or *ſpiritual*. And, (2.) the ſame general ideas, of *cauſe* and *effect*, *likeneſs*, &c. may be transferred to a thouſand other kinds of being, whether bodily or ſpiritual, beſides thoſe from whence we firſt derived them: Even thoſe abſtracted ideas, which might be firſt occaſioned by *bodies*, may be as properly afterward attributed to *ſpirits*.

Now,

Now, though Mr Locke ſuppoſes *ſenſation* and *reflection* to be the only two ſprings of all ideas, and that theſe two are ſufficient to furniſh our minds with all that rich variety of ideas which we have; yet *abſtraction* is certainly a different act of the mind, whence theſe abſtracted ideas have their original; though perhaps ſenſation or reflection may furniſh us with all the firſt objects aud occaſions whence theſe abſtracted ideas are excited and derived. Nor in this ſenſe and view of things can I think Mr Locke himſelf would deny my repreſentation of the original of abſtracted ideas, nor forbid them to ſtand for a diſtinct *ſpecies*.

Note. Though we have divided ideas in this chapter into three ſorts, namely, *ſenſible*, *ſpiritual*, and *abſtracted*, yet it may not be amiſs juſt to take notice here, that a *man* may be called a *compound ſubſtance*, being made of body and mind, and the *modes* which ariſe from this compoſition are called *mixed modes*, ſuch as *ſenſation*, *paſſion*, *diſcourſe*, &c. ſo the *ideas* of this ſubſtance or being, called *man*, and of theſe mixed modes, may be called *mixed ideas*, for they are not properly and ſtrictly *ſpiritual*, *ſenſible*, or *abſtracted*. See a much larger account of every part of this chapter in the *Philoſophical Eſſays*, by *I. Watts*, Eſſay III. IV. *&c.*

SECT. II.

Of ſimple and complex, compound and collective Ideas.

IDEAS conſidered in their nature, are either *ſimple* or *complex*.

A *ſimple idea* is one uniform idea, which cannot be divided or diſtinguiſhed by the mind of man into two or more ideas; ſuch are a multitude of our ſenſations; as the idea of *ſweet*, *bitter*, *cold*, *heat*, *white*, *red*, *blue*, *hard*, *ſoft*, *motion*, *reſt*, and

perhaps *extenſion* and *duration*: Such are alſo many of our ſpiritual ideas; ſuch as *thought*, *will*, *wiſh*, *knowledge*, &c.

A *complex idea* is made by joining two or more ſimple ideas together; as a *ſquare*, a *triangle*, a *cube*, a *pen*, a *table*, *reading*, *writing*, *truth*, *falſehood*, a *body*, a *man*, a *horſe*, an *angel*, a *heavy body*, a *ſwift horſe*, &c. Every thing that can be divided by the mind into two or more ideas is called *complex*.

Complex ideas are often conſidered as *ſingle* and *diſtinct* beings, though they may be made up of ſeveral *ſimple ideas*; ſo a *body*, a *ſpirit*, a *houſe*, a *tree*, a *flower*. But, when ſeveral of theſe ideas of a *different kind* are joined together, which are wont to be conſidered as diſtinct ſingle beings, this is called a *compound idea*, whether theſe united ideas be ſimple or complex. So, a man is compounded of *body* and *ſpirit*; ſo *mithridate* is a *compound medicine*, becauſe it is made of many different ingredients: This I have ſhewn under the doctrine of *ſubſtances*. And *modes* alſo may be compounded. *Harmony* is a compound idea made up of *different ſounds united*: So, ſeveral *different virtues* muſt be united to make up the compounded idea or character, either of a *hero*, or a *ſaint*.

But, when many ideas of the *ſame kind* are joined together, and united in one name, or under one view, it is called a *collective idea*; ſo, an *army* or a *parliament*, is a collection of men; a *dictionary* or *nomenclatura*, is a collection of words; a *flock* is a collection of ſheep; a *foreſt*, or *grove*, a collection of trees; an *heap*, is a collection of ſand, or corn, or duſt, &c.; a *city*, is a collection of houſes; a *noſegay*, is a collection of flowers; a *month*, or a *year*, is a collection of days; and a *thouſand*, is a collection of units.

The preciſe difference between a *compound* and *collective idea* is this, that a *compound idea* unites things

things of a different kind, but a *collective idea* things of the ſame kind: Though this diſtinction in ſome caſes is not accurately obſerved, and cuſtom oftentimes uſes the word *compound* for *collective*.

SECT. II.

Of univerſal and particular Ideas, *real and imaginary.*

IDEAS, according to their *objects*, may firſt be divided into *particular* or *univerſal*.

A *particular idea* is that which repreſents one thing only.

Sometimes the one thing is repreſented in a looſe and indeterminate manner, as, when we ſay, *ſome man, any man, one man, another man; ſome horſe, any horſe; one city*, or *another*; which is called by the ſchools *individuum vagum*.

Sometimes the *particular idea* repreſents one thing in a determinate manner, and then it is called a *ſingular idea*; ſuch is *Bucephalus*, or *Alexander's* horſe, *Cicero* the orator, *Peter* the apoſtle, the palace of *Verſailles*, *this book*, *that river*, the *New Foreſt*, or the city of *London*: That idea which repreſents one particular determinate thing to me, is called a *ſingular idea*, whether it be ſimple, or complex, or compound.

The *object* of any particular idea, as well as the *idea* itſelf, is ſometimes called an *individual*: So *Peter* is an individual man, *London* is an individual city. So *this book*, *one horſe*, *another horſe*, are all *individuals*; though the word *individual* is more uſually limited to one *ſingular*, *certain*, and *determined* object.

An *univerſal idea*, is that which repreſents a common nature agreeing to ſeveral particular things; ſo a *horſe*, a *man*, or a *book*, are called

univerſal

univerſal ideas; becauſe they agree to all *horſes*, *men*, or *books*.

And I think it not amiſs to intimate, in this place, that theſe *univerſal ideas* are formed by that act of the mind which is called *abſtraction*, that is, a withdrawing ſome part of an idea from other parts of it: For, when *ſingular ideas* are firſt let into the mind, by ſenſation or reflection, then, in order to make them *univerſal*, we leave out, or drop all thoſe peculiar and determinate characters, qualities, modes, or circumſtances, which belong merely to any particular individual being, and by which it differs from other beings; and we only contemplate thoſe properties of it, wherein it agrees with other beings.

Though, it muſt be confeſſed, that the name of *abſtracted ideas* is ſometimes attributed to *univerſal ideas*, both *ſenſible* or *ſpiritual*, yet this abſtraction is not ſo great, as when we drop out of our idea every *ſenſible* or *ſpiritual* repreſentation, and retain nothing but the moſt *general* and *abſolute* conceptions of things, or their mere *relations* to one another, without any regard to their particular natures, whether they be *ſenſible* or *ſpiritual*. And it is to this kind of conceptions we more properly give the name of *abſtracted ideas*, as in the firſt ſection of this chapter.

An *univerſal idea* is either *general* or *ſpiritual*.

A *general idea* is called by the ſchools a *genus*; and it is one common nature agreeing to ſeveral other common natures. So *animal* is a *genus*; becauſe it agrees to *horſe*, *lion*, *whale*, *butterfly*, which are alſo common ideas; ſo *fiſh*, is a *genus*; be-it agrees to *trout*, *herring*, *crab*, which are common natures alſo.

A *ſpecial idea* is called by the ſchools a *ſpecies*; it is one common nature that agrees to ſeveral ſingular individual beings; ſo *horſe* is a *ſpecial idea*, or a *ſpecies*, becauſe it agrees to *Bucephalus*, *Trott*, and

and *Snowball*. *City* is a *ſpecial idea*, for it agrees to *London*, *Paris*, *Briſtol*.

Note 1ſt. Some of theſe *univerſals* are *genuſes*, if compared with leſs common natures; and they are *ſpecies*, if compared with natures more common. So *bird* is a *genus*, if compared with *eagle*, *ſparrow*, *raven*, which are alſo common natures: But it is a *ſpecies*, if compared with the more general nature, *animal*. The ſame may be ſaid of *fiſh*, *beaſt*, &c.

This ſort of univerſal ideas, which may either be conſidered as a *genus*, or a *ſpecies*, is called *ſubaltern*: But the higheſt *genus*, which is never a *ſpecies*, is called the *moſt general*; and the loweſt *ſpecies*, which is never a *genus*, is called the *moſt ſpecial*.

It may be obſerved here alſo, that that general nature or property, wherein one things agrees with moſt other things, is called its *more remote genus*: So *ſubſtance* is the remote genus of *bird*, or *beaſt*, becauſe it agrees not only to all kinds of animals, but alſo to things inanimate, as ſun, ſtars, clouds, metals, ſtones, air, water, &c. But *animal* is the *proximate*, or *neareſt genus of bird*, becauſe it agrees to fewer other things. Thoſe general natures which ſtand between the *neareſt* and moſt *remote*, are called *intermediate*.

Note 2*d*. In univerſal ideas it is proper to conſider their *comprehenſion* and their *extenſion* *.

The *comprehenſion* of an idea regards all the eſſential modes and properties of it: So *body*, in its *comprehenſion*, takes in *ſolidity*, *figure*, *quantity*, *mobility*, &c. So a *bowl*, in its *comprehenſion*, includes *roundneſs*, *volubility*, &c.

The *extenſion* of an univerſal idea regards all the particular kinds and ſingle beings that are contained under it. So a *body* in its *extenſion* includes

* *Note*, The word *extenſion* here is taken in a mere *logical* ſenſe, and not in a *phyſical* and *mathematical* ſenſe.

ſun, *moon*, *ſtar*, *wood*, *iron*, *plant*, *animal*, *&c.* which are ſeveral *ſpecies*, or *individuals*, under the general name of *body*. So a *bowl*, in its *extenſion*, includes a *wooden* bowl, a *braſs* bowl, a *white* and *black* bowl, a *heavy* bowl, *&c.* and all kinds of bowls, together with all the particular individual bowls in the world.

Note. The *comprehenſion of an idea* is ſometimes taken in ſo large a ſenſe, as not only to include the eſſential attributes, but all the properties, modes, and relations whatſoever, that belong to any being, as will appear, *Chap.* VI.

This account of *genus* and *ſpecies* is part of that famous doctrine of *univerſals*, which is taught in the ſchools, with divers other formalities belonging to it; for it is in this place that they introduce *difference*, which is the primary eſſential mode, and *property*, or the ſecondary eſſential mode, and *accident*, or the accidental mode; and theſe they call the *five predicables*, becauſe every thing that is affirmed concerning any being muſt be either the *genus*, the *ſpecies*, the *difference*, ſome *property*, ſome *accident*: But what farther is neceſſary to be ſaid concerning theſe things will be mentioned when we treat of *definition*.

Having finiſhed the doctrine of *univerſal* and *particular ideas*, I ſhould take notice of another diviſion of them, which alſo hath reſpect to their *objects*; and that is, they are either *real* or *imaginary*.

Real ideas are ſuch as have a juſt foundation in nature, and have real objects, or exemplars, which did, or do, or may actually exiſt, according to the preſent ſtate and nature of things; ſuch are all our ideas of *long*, *broad*, *ſwift*, *ſlow*, *wood*, *iron*, *men*, *horſes*, *thoughts*, *ſpirits*, a cruel *maſter*, a proud *beggar*, a *man* ſeven feet high.

Imaginary ideas, which are alſo called *fantaſtical*, or *chimerical*, are ſuch as are made by enlarging, diminiſhing,

diminiſhing, uniting, dividing real ideas in the mind, in ſuch a manner, as no objects or exemplars did or ever will exiſt, according to the preſent courſe of nature, though the ſeveral parts of theſe ideas are borrowed from real objects; ſuch are the conceptions we have of a *centaur*, a *ſatyr*, a *golden mountain*, a *flying horſe*, a *dog without a head*, a *bull leſs than a mouſe*, or a *mouſe as big as a bull*, and a *man twenty feet high*.

Some of theſe fantaſtic ideas are *poſſible*, that is, they are not utterly inconſiſtent in the nature of things; and therefore it is within the reach of divine power to make ſuch objects; ſuch are moſt of the inſtances already given: But *impoſſibles* to carry an utter inconſiſtence in the ideas which are joined; ſuch are *ſelf-active matter*, and *infinite* or *eternal men*, a *pious man without honeſty*, or *heaven without holineſs*.

SECT. IV.

The diviſion of Ideas, with regard to their Qualities.

IDEAS, with regard to their *qualities*, afford us theſe ſeveral diviſions of them. 1. They are either *clear* and *diſtinct*, or *obſcure* and *confuſed*. 2. They are *vulgar* or *learned*. 3. They are *perfect* or *imperfect*. 4. They are *true* or *falſe*.

I. Our ideas are either *clear* and *diſtinct*, or *obſcure* and *confuſed*.

Several writers have diſtinguiſhed the *clear ideas* from thoſe that are *diſtinct*; and the *confuſed ideas* from thoſe that are *obſcure*; and it muſt be acknowledged there may be ſome difference between them; for it is the *clearneſs* of ideas for the moſt part makes them *diſtinct*; and the *obſcurity* of ideas is one thing that will always bring a ſort of *confuſion* into them. Yet, when theſe writers come to talk largely upon this ſubject, and to explain and adjuſt

adjuſt their meaning with great nicety, I have generally found that they did not keep up the diſtinction they firſt deſigned, but they confound the one with the other. I ſhall therefore treat of *clear* or *diſtinct ideas*, as one and the ſame ſort, and *obſcure* or *confuſed ideas*, as another.

A *clear* and *diſtinct idea*, is that which repreſents the object of the mind with full evidence and ſtrength, and plainly diſtinguiſhes it from all other objects whatſoever.

An *obſcure* and *confuſed* idea repreſents the object either ſo faintly, ſo imperfectly, or ſo mingled with other ideas, that the object of it doth not appear plain to the mind, nor purely in its own nature, nor ſufficiently diſtinguiſhed from other things.

When we ſee the ſea and ſky nearer at hand, we have a *clear* and *diſtinct idea* of each; but, when we look *far* toward the horizon, eſpecially in a miſty day, our ideas of both are but *obſcure* and *confuſed*; for we know not which is *ſea*, and which is *ſky*. So when we look at the *colours* of the rainbow, we have a *clear idea* of the *red*, the *blue*, the *green*, in the *middle* of their ſeveral arches, and a *diſtinct idea* too, while the eye fixes there; but, when we conſider the *border* of thoſe colours; they ſo run into one another, that it renders their ideas *confuſed* and *obſcure*: So the idea which we have of *our brother*, or *our friend*, whom we ſee daily, is *clear* and *diſtinct*; but, when the abſence of many years has injured the idea, it becomes *obſcure* and *confuſed*.

Note here, That ſome of our ideas may be very *clear* and *diſtinct* in one reſpect, and very *obſcure* and *confuſed* in another. So when we ſpeak of a *Chiliagonum*, or a *figure of a thouſand angles*, we may have a *clear* and *diſtinct rational idea* of the number *one thouſand angles*; for we can demonſtrate various properties concerning it by reaſon: But the

image,

image, or *ſenſible idea*, which we have of the figure, is but *confuſed* and *obſcure*; for we cannot preciſely diſtinguiſh it by fancy from the image of a *figure that has nine hundred angles*, or *nine hundred and ninety*. So when we ſpeak of the *infinite diviſibility of matter*, we always keep in our minds a very clear and diſtinct idea of *diviſion* and *diviſibility*; but, after we have made a little progreſs in dividing, and come to parts that are far too ſmall for the reach of our ſenſes, then our *ideas* or *ſenſible images* of theſe little bodies become *obſcure* and *indiſtinct*, and the idea of *infinite* is very *obſcure*, *imperfect*, and *confuſed*.

II. *Ideas* are either *vulgar* or *learned*. A *vulgar idea* repreſents to us the moſt obvious and ſenſible appearances that are contained in the object of them: but a *learned idea* penetrates farther into the nature, properties, reaſons, cauſes, and effects of things. This is beſt illuſtrated by ſome examples.

It is a *vulgar idea* that we have of a *rainbow*, when we conceive a large arch in the clouds, made up of various colours parallel to each other: But it is a *learned idea* which a philoſopher has when he conſiders it as the various reflections and refractions of ſun-beams, in drops of falling rain. So it is a *vulgar idea*, which we have of the *colours of ſolid bodies*, when we perceive them to be, as it were, a red, or blue, or green tincture of the ſurface of thoſe bodies: But it is a *philoſophical idea*, when we conſider the *various colours* to be nothing elſe but different ſenſations excited in us by the variouſly refracted rays of light, reflected on our eyes in a different manner, according to the different ſize, or ſhape, or ſituation of the particles of which the ſurfaces of thoſe bodies are compoſed. It is a *vulgar idea* which we have of a *watch* or *clock*, when we conceive of it as a pretty inſtrument, made to ſhew us the hour of the day: But it is a *learned idea* which the watchmaker has of it, who knows all

all the ſeveral parts of it, the ſpring, the balance, the chain, the wheels, their axles, &c. together with the various connections and adjuſtments of each part, whence the exact and uniform motion of the index is derived, which points to the minute or the hour. So, when a common underſtanding reads *Virgil*'s *Æneid*, he has but a *vulgar idea* of that poem, yet his mind is naturally entertained with the ſtory, and his ears with the verſe: But, when a critic, or a man who has ſkill in poeſy, reads it, he has a *learned idea* of its peculiar beauties, he taſtes and reliſhes a ſuperior pleaſure; he admires the Roman Poet, and wiſhes he had known the Chriſtian Theology, which would have furniſhed him with nobler materials and machines than all the Heathen Idols.

It is with a *vulgar idea* that the world beholds the *Cartoons* of *Raphael* at Hampton-Court, and every one feels his ſhare of pleaſure and entertainment: But a *painter* contemplates the wonders of that Italian pencil, and ſees a thouſand beauties in them which the vulgar eye neglected: His *learned ideas* give him a tranſcendent delight, and yet, at the ſame time, diſcover the blemiſhes which the common gazer never obſerved.

III. *Ideas* are either *perfect* or *imperfect*, which are otherwiſe called *adequate* or *inadequate*.

Thoſe are *adequate ideas* which perfectly repreſent their archetypes or objects. *Inadequate ideas* are but a partial, or incomplete repreſentation of thoſe archetypes to which they are referred.

All our *ſimple ideas* are in ſome ſenſe *adequate* or *perfect*, becauſe ſimple ideas, conſidered merely as our firſt perceptions, have no parts in them: So we may be ſaid to have a perfect idea of *white*, *black*, *ſweet*, *ſour*, *length*, *light*, *motion*, *reſt*, &c. We have alſo a perfect idea of various figures, as a *triangle*, a *ſquare*, a *cylinder*, a *cube*, a *ſphere*, which are complex ideas: But, our idea or image

of

of a *figure of a thouſand ſides*, our idea of the *city of London*, or the *powers of a loadſtone*, are very imperfect, as well as all our ideas of *infinite length* or *breadth*, *infinite power*, *wiſdom*, or *duration*; for the idea of *infinite* is endleſs and ever growing, and can never be completed.

Note 1. When we have a *perfect* idea of any thing in all its parts, it is called a *complete idea*; when in all its properties, it is called *comprehenſive*. But, when we have but an *inadequate* and *imperfect* idea, we are only ſaid to *apprehend* it; therefore we uſe the term *apprehenſion* when we ſpeak of our knowledge of God, who can never be *comprehended* by his creatures.

Note 2. Though there are a multitude of ideas which may be called *perfect*, or *adequate*, in a vulgar ſenſe, yet there are ſcarce any ideas which are *adequate*, *comprehenſive*, and *complete*, in a philoſophical ſenſe; for there is ſcarce any thing in the world that we know, as to all the parts and powers and properties of it, in perfection. Even ſo plain an idea as that of a *triangle*, has, perhaps, infinite properties belonging to it, of which we know but a few. Who can tell what are the ſhapes and poſitions of thoſe particles, which cauſe all the variety of colours that appear on the ſurface of things? Who knows what are the figures of the little corpuſcles that compoſe and diſtinguiſh different bodies? The ideas of *braſs*, *iron*, *gold*, *wood*, *ſtone*, *hyſop*, and *roſemary*, have an infinite variety of hidden myſteries contained in the ſhape, ſize, motion, and poſition of the little particles of which they are compoſed; and, perhaps, alſo infinite unknown properties and powers, that may be derived from them. And, if we ariſe to the *animal* world, or the world of *ſpirits*, our knowledge of them muſt be amazingly imperfect, when there is not the leaſt *grain of ſand*, or *empty ſpace*, but has too many queſtions and difficulties belonging to it for the

the wiſeſt philoſopher upon earth to anſwer and reſolve.

IV. Our *ideas* are either *true* or *falſe*; for, an idea being the repreſentation of a thing in the mind, it muſt be either a *true* or a *falſe repreſentation* of it. If the idea be conformable to the object or archetype of it, it is a *true idea*; if not, it is a *falſe* one. Sometimes our ideas are referred to things really exiſting without us, as their archetypes. If I ſee bodies *in their proper colours*, I have a *true idea*: But, when a man under the jaundice ſees *all bodies yellow*, he has a *falſe idea* of them. So, if we ſee the *ſun* or *moon riſing* or *ſetting*, our idea repreſents them *bigger* than when they are *on the meridian*: And in this ſenſe it is a *falſe* idea, becauſe thoſe heavenly bodies are all day and all night of the ſame bigneſs. Or, when I ſee a *ſtraight ſtaff appear crooked* while it is half under the water, I ſay the water gives me a *falſe* idea of it. Sometimes our ideas refer to the ideas of other men, denoted by ſuch a particular word, as their archetypes: So, when I hear a *Proteſtant* uſe the words *church* and *ſacraments*, if I underſtand by theſe words a *congregation of faithful men, who profeſs Chriſtianity*, and the two *ordinances*, baptiſm and the Lord's ſupper, I have a *true* idea of thoſe words in the common ſenſe of Proteſtants: But, if the man who ſpeaks of them be a *Papiſt*, he means the *church of Rome and the ſeven ſacraments*, and then I have a *miſtaken* idea of thoſe words, as ſpoken by him, for he has a different ſenſe and meaning: And, in general, whenſoever I miſtake the ſenſe of any ſpeaker or writer, I may be ſaid to have a *falſe* idea of it.

Some think that *truth* or *falſhood* properly belongs only to *propoſitions*, which ſhall be the ſubject of diſcourſe in the Second Part of *Logic*; for, if we conſider *ideas* as mere impreſſions upon the mind, made by outward objects, thoſe impreſſions will

will ever be conformable to the laws of nature in ſuch a caſe: The *water* will make a *ſtick* appear *crooked*, and the *horizontal air* will make the *ſun* and *moon* appear *bigger*. And, generally, where there is *falſhood* in *ideas*, there ſeems to be ſome *ſecret* or *latent propoſition*, whereby we judge falſely of things. This is more obvious where we take up the words of a writer or ſpeaker in a miſtaken ſenſe, for we join his words to our own ideas, which are different from his. But, after all, ſince ideas are pictures of things, it can never be very improper to pronounce them to be *true* or *falſe*, according to their *conformity* or *nonconformity* to their exemplars.

CHAP. IV

Of WORDS, *and their ſeveral Diviſions, together with the Advantage and Danger of them.*

SECT. I.

Of WORDS *in general, and their Uſe.*

THOUGH our ideas are firſt acquired by the perception of objects, or by various *ſenſations* and *reflections*, yet we convey them to each other by the means of certain ſounds, or written marks, which we call *words*; and a great part of our knowledge is both obtained and communicated by theſe means, which are called *ſpeech* or *language*.

But, as we are led into the knowledge of things by *words*, ſo we are oftentimes led into error or miſtake by the uſe or abuſe of *words* alſo. And, in order to guard againſt ſuch miſtakes, as well as

to

to promote our improvement in knowledge, it is neceſſary to acquaint ourſelves a little with *words* and *terms*. We ſhall begin with theſe obſervations.

Obſervation 1. Words (whether they are ſpoken or written) have no natural connection with the ideas they are deſigned to ſignify, nor with the things which are repreſented in thoſe ideas. There is no manner of affinity between the ſounds *white* in Engliſh, or *blanc* in French, and *that colour* which we call by that name; nor have the letters, of which theſe words are compoſed, any natural aptneſs to ſignify that colour rather than *red* or *green*. Words and names, therefore, are mere *arbitrary ſigns*, invented by men to communicate their thoughts or ideas to one another.

Obſerv. 2. If one ſingle word were appointed to expreſs one ſimple idea, and nothing elſe, as *white*, *black*, *ſweet*, *ſour*, *ſharp*, *bitter*, *extenſion*, *duration*, there would be ſcarce any miſtake about them

But alas! it is a common unhappineſs in language, that different *ſimple ideas* are ſometimes expreſſed by the *ſame word*; ſo the words *ſweet* and *ſharp* are applied both to the objects of hearing and taſting, as we ſhall ſee hereafter; and this, perhaps, may be one cauſe or foundation of obſcurity and error ariſing from words.

Obſerv. 3. In communicating our complex ideas to one another, if we could join as many peculiar and appropriated words together in one ſound, as we join ſimple ideas to make one complex one, we ſhould ſeldom be in danger of miſtaking: When I expreſs the taſte of an *apple*, which we call the *bitter ſweet*, none can miſtake what I mean.

Yet this ſort of *compoſition* would make all language a moſt tedious and unwieldy thing, ſince moſt of our ideas are complex, and many of them have eight or ten ſimple ideas in them; ſo that the remedy would be worſe than the diſeaſe; for, what is

is now expreſſed in one ſhort word, as *month*, or *year*, would require two lines to expreſs it. It is neceſſary, therefore, that *ſingle words* be invented to expreſs *complex ideas*, in order to make language ſhort and uſeful.

But here is our great infelicity, that when *ſingle words* ſignify *complex ideas*, one word can never diſtinctly manifeſt all the *parts* of a complex idea; and thereby it will often happen, that one man includes *more* or *leſs* in his idea, than another does, while he affixes the *ſame* word to it. In this caſe, there will be danger of miſtake between them, for they do not mean the *ſame object*, though they uſe the *ſame name*. So, if one perſon or nation, by the word *year*, mean twelve months or thirty days each, that is, three hundred and ſixty days, another intend a *ſolar year* of three hundred ſixty five days, and a third mean a *lunar year*, or twelve *lunar months*, that is, three hundred fifty four days, there will be a great variation and error in their account of things, unleſs they are well appriſed of each other's meaning before hand. This is ſuppoſed to be the reaſon why ſome ancient hiſtories, and prophecies, and accounts of chronology, are ſo hard to be adjuſted. And this is the true reaſon of ſo furious and endleſs debates on many points of divinity; the words *church*, *worſhip*, *idolatry*, *repentance*, *faith*, *election*, *merit*, *grace*, and many others, which ſignify very *complex ideas*, are not applied to include juſt the ſame ſimple ideas, and the ſame number of them, by the various contending parties; thence ariſe confuſion and conteſt.

Obſerv. 4. Though a *ſingle name* does not certainly manifeſt to us all the *parts* of a *complex idea*, yet it muſt be acknowledged, that, in many of our *complex ideas*, the ſingle name may point out to us ſome *chief property* which belongs to the thing that the word ſignifies; eſpecially when the word or name

is

is traced up to the original, through ſeveral languages from whence it is borrowed. So an *apoſtle* ſignifies *one who is ſent forth.*

But this tracing of a word to its original, (which is called *etymology*), is ſometimes a very precarious and uncertain thing; and, after all, we have made but little progreſs towards the attainment of the full meaning of a *complex idea*, by knowing ſome one chief property of it. We know but a ſmall part of the notion of an *apoſtle*, by knowing barely that he is *ſent forth.*

Obſerv. 5. Many (if not moſt) of our words which are applied to *moral* and *intellectual ideas*, when traced up to their original in the learned languages, will be found to ſignify *ſenſible* and *corporeal* things. Thus, the words *apprehenſion*, *underſtanding*, *abſtraction*, *invention*, *idea*, *inference*, *prudence*, *religion*, *church*, *adoration*, &c. have all a coporeal ſignification in their original. The name *ſpirit* itſelf ſignifies *breath* or *air*, in Latin, Greek, and Hebrew: Such is the poverty of all languages, they are forced to uſe theſe names for *incorporeal* ideas, which thing has a tendency to error and confuſion.

Obſerv. 6. The laſt thing I ſhall mention, that leads us into many a miſtake, is, the multitude of objects that one name ſometimes ſignifies: There is almoſt an infinite variety of things and ideas, both ſimple and complex, beyond all the words that are invented in any language; thence it becomes almoſt neceſſary that one name ſhould ſignify ſeveral things. Let us but conſider the two colours of *yellow* and *blue*; if they are mingled together in any conſiderable propoption they make a *green*: Now, there may be infinite differences of the proportions in the mixture of *yellow* and *blue*; and yet we have only theſe three words, *yellow*, *blue*, and *green*, to ſignify all of them, at leaſt by one ſingle term.

When I uſe the word *ſhore*, I may intend thereby

a *coaſt of land near the ſea*, or *a drain to carry off water*, or *a prop to ſupport a building*; and, by the ſound of the word *porter*, who can tell whether I mean *a man who bears burdens*, or *a ſervant who waits at a nobleman's gate?* The world is fruitful in the invention of *utenſils* of life, and new *characters* and *offices* of men, yet *names* intirely new are ſeldom invented; therefore old names are almoſt neceſſarily uſed to ſignify new things, which may occaſion much confuſion and error in the receiving and communicating of knowledge.

Give me leave to propoſe one ſingle inſtance, wherein all theſe notes ſhall be remarkably exemplified. It is the word *biſhop*, which in French is called evêque; upon which I would make theſe ſeveral obſervations. 1. That there is no natural connection between the ſacred office hereby ſignified, and the letters or ſounds which ſignify this office; for both theſe words, evêque or *biſhop*, ſignify the ſame office, though there is not one letter alike in them; nor have the letters which compoſe the Engliſh or the French word any thing ſacred belonging to them, more than the letters that compoſe the words *king* or *ſoldier*. 2. If the meaning of a word could be learned by its derivation or etymology, yet the original derivation of words is oftentimes very dark and unſearchable; for who would imagine that each of theſe words are derived from the Latin *epiſcopus*, or the Greek Ἐπίσκοπος. Yet, in this inſtance, we happen to know certainly the true derivation; the French being anciently writ *eveſque*, is borrowed from the firſt part of the Latin word; and the old Engliſh *biſcop* from the middle of it. 3. The original Greek word ſignifies an *overlooker*, or one who ſtands higher than his fellows, and overlooks them: It is a compound word, that primarily ſignifies *ſenſible ideas*, tranſlated to ſignify or include ſeveral *moral* or *intellectual ideas*; therefore all will grant that the nature

nature of the office can never be known by the mere ſound or ſenſe of the word *overlooker*. 4. I add farther, the word *biſhop* or *epiſcopus*, even when it is thus tranſlated from a ſenſible idea, to include ſeveral intellectual ideas, may yet equally ſignify an *overſeer* of the poor; an *inſpector* of the cuſtoms; a *ſurveyor* of the highways; a *ſupervifor* of the exciſe, &c.; but, by the conſent of men, and the language of ſcripture, it is appropriated to ſignify a *ſacred office in the church*. 5. This very idea and name, thus tranſlated from things ſenſible, to ſignify a ſpiritual and ſacred thing, contains but one property of it, namely, *one that has the overſight or care over others*; but does not tell us whether it includes a *care over one church* or *many*; over the *laity*, or the *clergy*. 6. Thence it follows, that thoſe who, in the complex idea of the word *biſhop*, include an overſight over *the clergy*, or over a *whole dioceſe* of people, a *ſuperiority* to preſbyters, a diſtinct *power* of ordination, &c. muſt neceſſarily diſagree with thoſe who include in it only the care of a ſingle congregation. Thus, according to the various opinions of men, this word ſignifies a *pope*, a Gallican *biſhop*, a Lutheran *ſuperintendent*, an Engliſh *prelate*, a *paſtor of a ſingle aſſembly*, or a *preſbyter* or *elder*. Thus they quarrel with each other perpetually; and it is well if any of them all have hit preciſely the ſenſe of the ſacred writers, and included juſt the ſame ideas in it, and no others.

I might make all the ſame remarks on the word *church* or *kirk*, which is derived from Κυριακος. or *the houſe of the Lord*, contracted into *Kyriack*, which ſome ſuppoſe to ſignify *an aſſembly of Chriſtians*, ſome take it for *all the world that profeſſes Chriſtianity*, and ſome make it to mean only *the clergy*; and on theſe accounts it has been the occaſion of as many and as furious controverſies as the word *biſhop* which was mentioned before.

SECT.

SECT. II.

Of Negative and Poſitive Terms.

FROM theſe, and other conſiderations, it will follow, that, if we could avoid error in our purſuit of knowledge, we muſt take good heed to the uſe of *words* and *terms*, and be acquainted with the various kinds of them.

I. Terms are either *poſitive* or *negative*.

Negative terms are ſuch as have a little word or ſyllable of denying joined to them, according to the various idioms of every language; as *unpleaſant*, *imprudent*, *immortal*, *irregular*, *ignorant*, *infinite*, *endleſs*, *lifeleſs*, *deathleſs*, *nonſenſe*, *abyſs*, *anonymous*, where the prepoſitions *um*, *im*, *in*, *non*, *a*, *an*, and the termination *leſs*, ſignify a negation, either in Engliſh, Latin, or Greek.

Poſitive terms are thoſe which have no ſuch negative appendices belonging to them, as *life*, *death*, *end*, *ſenſe*, *mortal*.

But ſo unhappily are our words and ideas linked together, that we can never know which are *poſitive ideas*, and which are *negative*, by the word that is uſed to expreſs them, and that for theſe reaſons:

1*ſt*, There are ſome *poſitive terms* which are made to ſignify a *negative idea*; as *dead* is properly a thing that is deprived of *life*; *blind* implies a negation or privation of *ſight*; *deaf* a want of *hearing*; *dumb* a denial of *ſpeech*.

2*dly*, There are alſo ſome *negative terms* which imply *poſitive ideas*, ſuch as *immortal* and *deathleſs*, which ſignify *ever-living*, or a continuance in life: *Inſolent*, ſignifies rude and haughty; *indemnify*, to keep ſafe; and *infinite*, perhaps has a *poſitive idea* too, for it is an idea ever growing; and when it is applied to *God*, it ſignifies his *complete perfection*.

3*dly*, There are both *positive* and *negative terms* invented to signify the *same*, instead of *contrary* ideas; as *unhappy* and *miserable*, *sinless* and *holy*, *pure* and *undefiled*, *impure* and *filthy*, *unkind* and *cruel*, *irreligious* and *prophane*, *unforgiving* and *revengful*, &c. and there is a great deal of beauty and convenience derived to any language from this variety of expression; though sometimes it a little confounds our conceptions of *being* and *not-being*, our *positive* and *negative* ideas.

4*thly*, I may add also, that there are some words which are *negative* in their *original* language, but seem *positive* to an Englishman, because the negation is unknown; an *abyss*, a place without a bottom; *anodyne*, an easing medicine; *amnesty*, an unremembrance, or general pardon; *anarchy*, a state without government; *anonymous*, that is, nameless; *inept*, that is, not fit; *iniquity*, that is, unrighteousness; *infant*, one that cannot speak, namely, a child; *injurious*, not doing justice or right.

The way therefore to know whether any idea be *negative* or not, is to consider whether it primarily imply the absence of any positive being, or mode of being; if it doth, then it is a *negation*, or *negative idea*; otherwise it is a *positive* one, whether the word that expresses it be positive or negative. Yet, after all, in many cases, this is very hard to determine, as in *amnesty*, *infinite*, *abyss*, which are originally relative terms, but they signify *pardon*, &c. which seem to be positive. So *darkness*, *madness*, *clown*, are positive terms, but they imply the want of *light*, the want of *reason*, and the want of *manners*; and perhaps these may be ranked among the *negative* ideas.

Here *note*, That in the English tongue *two negative* terms are equal to *one positive*, and signify the same thing, as *not unhappy*, signifies *happy*: *not immortal*, signifies *mortal*; he is *no imprudent man*, that is, he is a *man of prudence*: But the sense and force of the word,

word, in ſuch a negative way of expreſſion, ſeem to be a little diminiſhed.

SECT. III.

Of Simple and Complex Terms.

II. TERMS are divided into *ſimple* or *complex*. A *ſimple term* is one word, a *complex term* is when more words are uſed to ſignify one thing.

Some terms are *complex in words, but not in ſenſe;* ſuch is the *ſecond emperor of Rome;* for it excites in our mind only the idea of one man, namely *Auguſtus*.

Some terms are *complex in ſenſe but not in words;* ſo when I ſay an *army*, a *foreſt*, I mean a *multitude of men* or *trees;* and almoſt all our *moral ideas*, as well as many of our *natural* ones, are expreſſed in this manner; *Religion*, *piety*, *loyalty*, *knavery*, *theft*, include a variety of ideas in each term.

There are other terms which are *complex both in words and ſenſe;* ſo when I ſay, a *fierce dog*, or a *pious man*, it excites an idea, not only of thoſe two creatures, but of their peculiar characters alſo.

Among the terms that are *complex in ſenſe, but not in words*, we may reckon thoſe ſimple terms which contain a *primary* and a *ſecondary* idea in them; as when I hear my neighbour ſpeak that which is not true, and I ſay to him, *This is not true*, or *this is falſe*, I only convey to him the naked idea of his error; this is the *primary idea:* But if I ſay *it is a lie*, the word *lie* carries alſo a *ſecondary idea* in it, for it implies both the falſhood of the ſpeech, and my reproach and cenſure of the ſpeaker. On the other hand, if I ſay *it is a miſtake*, this carries alſo a *ſecondary idea* with it; for it not only refers to the falſhood of his ſpeech, but includes my tenderneſs and civility to him at the ſame time. Another inſtance may be this; when I uſe the word *inceſt*, *adultery*,

tery, and *murder*, I convey to another not only the *primary idea* of thoſe actions, but I include alſo the *ſecondary idea* of their unlawfulneſs, and my abhorrence of them.

Note 1*ſt*, Hence it comes to paſs, that among words which ſignify the ſame *principal ideas*, ſome are *clean* and *decent*, others *unclean*; ſome *chaſte*, others *obſcene*; ſome are *kind*, others are *affronting* and *reproachful*, becauſe of the *ſecondary idea* which cuſtom has affixed to them. And it is the part of a wiſe man, when there is a neceſſity of expreſſing any *evil actions*, to do it either by a word that has a ſecondary idea of *kindneſs* or *ſoftneſs*, or a word that carries with it an idea of *rebuke* and *ſeverity*, according as the caſe requires: So when there is a neceſſity of expreſſing things *unclean* or *obſcene*, a wiſe man will do it in the moſt decent language, to excite as few uncleanly ideas as poſſible in the minds of the hearers.

Note 2*d*, In length of time, and by the power of cuſtom, words ſometimes change their *primary ideas*, as ſhall be declared, and ſometimes they have changed their *ſecondary ideas*, though the *primary ideas* may remain: So words that were once *chaſte* by frequent uſe grow *obſcene* and *uncleanly*; and words that were once *honourable* may, in the next generation, grow *mean* and *contemptible*. So the word *dame* originally ſignified a miſtreſs of a family, who was a *lady*; and it is uſed ſtill in the *Engliſh* law to ſignify a *lady*, but in common uſe now a-days it repreſents a *farmer's wife, or a miſtreſs of a family of the lower rank in the country*. So thoſe words of *Rabſhaketh*, Iſa. xxxvi. 12. in our tranſlation, *(eat their own dung*, &c.*)* were doubtleſs decent and clean language, when our tranſlators wrote them, above a hundred years ago. The word *eat* has maintained its old ſecondary idea and inoffenſive ſenſe to this day; but the *other word* in that ſentence has by cuſtom acquired a more uncleanly

cleanly idea, and ſhould now rather be changed into a more decent term, and ſo it ſhould be read in public, unleſs it ſhould be thought more proper to omit the ſentence *.

For this reaſon it is that the Jewiſh Rabbins have ſupplied other chaſte words in the margin of the Hebrew Bible, where the words of the text, through time and cuſtom, are degenerated, ſo as to carry any baſe and *unclean ſecondary idea* in them; and they read the word which is in the margin, which they call *keri*, and not that which was written in the text, which they called *chetib*.

SECT. IV.

Of Words Common and Proper.

III. *WORDS* and *names* are either *common* or *proper*. *Common names* are ſuch as ſtand for univerſal ideas, or a whole rank of beings, whether general or ſpecial. Theſe are called *appellatives*; ſo *fiſh*, *bird*, *man*, *city*, *river*, are common names; and ſo are *trout*, *eel*, *lobſter*, for they all agree to many *individuals*, and ſome of them to many *ſpecies*: But *Cicero*, *Virgil*, *Bucephalus*, *London*, *Rome*, *Ætna*, the *Thames*, are proper names, for each of them agrees only to one *ſingle* being.

Note here, firſt, That a *proper* name may become in ſome ſenſe *common*, when it hath been given to ſeveral beings of the ſame kind; ſo *Cæſar*, which was the proper name of the firſt emperor *Julius*, became alſo a common name to all the following emperors. And *tea*, which was the proper name of one ſort of *Indian* leaf, is now-a-days become a common name for many infuſions of herbs, or

* So in ſome places of the ſacred hiſtorians, where it is written, *Every one that piſſeth againſt the wall*, we ſhould read, *every male*.

plants, in water; as *ſage-tea*, *alehoof-tea*, *limon-tea*, &c. So *Peter*, *Thomas*, *John*, *William*, may be reckoned common names alſo, becauſe they are given to many perſons, unleſs they are determined to ſignify a ſingle perſon at any particular time or place.

Note in the *ſecond* place, That a *common* name may become *proper* by cuſtom, or by the time, or place, or perſons that uſe it; as in Great Britain, when we ſay *the king*, we mean our preſent rightful ſovereign *King* GEORGE, who now reigns; when we ſpeak of *the prince*, we intend his royal highneſs GEORGE *Prince of Wales*: If we mention the *city*, when we are near *London*, we generally mean the *city of London*; when in a country town we ſay the *parſon*, or the *eſquire*, all the pariſh knows who are the ſingle perſons intended by it; ſo when we are ſpeaking of the hiſtory of the New Teſtament, and uſe the words *Peter*, *Paul*, *John*, we mean thoſe three apoſtles.

Note in the *third* place, That any *common* name whatſoever is made *proper* by terms of particularity added to it, as the common words *pope*, *king*, *horſe*, *garden*, *book*, *knife*, &c. are deſigned to ſignify a ſingular idea, when we ſay, *the preſent pope*; *the king of Great Britain*; *the horſe that won the laſt plate at Newmarket*; *the royal garden at Kenſington*; *this book*, *that knife*, &c.

SECT. V.

Of Concrete and Abſtract Terms.

IV. WORDS or *terms* are divided into *abſtract* and *concrete*.

Abſtract terms ſignify the mode or quality of a being, without any regard to the ſubject in which it is; as *whiteneſs*, *roundneſs*, *length*, *breadth*, *wiſdom*, *mortality*, *life*, *death*.

Concrete

Concrete terms, while they expreſs the quality, do alſo either expreſs or imply, or refer to ſome ſubject to which it belongs; as *white*, *round*, *long*, *broad*, *wiſe*, *mortal*, *living*, *dead*. But theſe are not always noun adjectives in a grammatical ſenſe; for a *fool*, a *knave*, a *philoſopher*, and many other concretes, are *ſubſtantives*, as well as *knavery*, *folly*, and *philoſophy*, which are the *abſtract* terms that belong to them

SECT. VI.

Of Univocal and Equivocal Words.

V. *WORDS* and *terms* are either *univocal* or *equivocal*. *Univocal* words are ſuch as ſignify but one idea, or at leaſt but one ſort of thing; *equivocal* words are ſuch as ſignify two or more different ideas, or different ſorts of objects. The words *book*, *bible*, *fiſh*, *houſe*, *elephant*, may be called *univocal* words; for I know not that they ſignify any thing elſe but thoſe ideas to which they are generally affixed; but *head* is an equivocal word, for it ſignifies the head of a *nail*, or of a *pin*, as well as of an *animal*: *Nail* is an equivocal word, it is uſed for the *nail of the hand*, or *foot*, and for an *iron nail* to faſten any thing. *Poſt* is equivocal, it is a *piece of timber*, or *a ſwift meſſenger*. A *church* is a *religious aſſembly*, or the *large fair building* where they meet; and ſometimes the ſame word means a *ſynod of biſhops*, or of *preſbyters*, and in ſome places it is the *pope and a general council*.

Here let it be noted, that when two or more words ſignify the ſame thing, as *wave* and *billow*, *mead* and *meadow*, they are uſually called *ſynonymous* words: But it ſeems very ſtrange, that words, which are directly contrary to each other, ſhould ſometimes repreſent almoſt the ſame ideas; yet thus it is in ſome few inſtances; a *valuable*, or an *invaluable*

luable bleſſing; a *ſhameful*, or a *ſhameleſs villain*; a *thick ſkull*, or a *thin ſkull'd fellow*, a mere *paper ſkull*; a man of a *large conſcience*, *little conſcience*, or *no conſcience*; a *famous raſcal*, or an *infamous* one. So uncertain a thing is human language, whoſe foundation and ſupport is cuſtom!

As words ſignifying the ſame thing are called *ſynonymous*, ſo equivocal words, or thoſe which ſignify ſeveral things, are called *homonymous*, or *ambiguous*; and when perſons uſe ſuch ambiguous words with a deſign to deceive, it is called *equivocation*.

Our *ſimple ideas*, and eſpecially the *ſenſible qualities*, furniſh us with a great variety of *equivocal* or *ambiguous words*; for theſe being the firſt and moſt natural ideas we have, we borrow ſome of their names, to ſignify many other ideas, both ſimple and complex. The word *ſweet* expreſſes the pleaſant perceptions of almoſt every ſenſe; *ſugar* is ſweet, but it hath not the ſame ſweetneſs as *muſic*: nor hath muſic the ſweetneſs of a *roſe*; and a ſweet *proſpect* differs from them all: Nor yet have any of theſe the ſame ſweetneſs as *diſcourſe*, *counſel*, or *meditation* hath; yet the royal Pſalmiſt ſaith of a man, *We took ſweet counſel together*; and of God, *My meditation of him ſhall be ſweet*. *Bitter* is alſo ſuch an equivocal word; there is bitter *wormwood*, there are bitter *words*, there are bitter *enemies*, and a bitter *cold morning*. So there is a ſharpneſs in *vinegar*, and there is a ſharpneſs in *pain*, in *ſorrow*, and in *reproach*; there is a ſharp *eye*, a ſharp *wit*, and a ſharp *ſword*: But there is not one of theſe ſeven *ſharpneſſes* the ſame as another of them; and a ſharp *caſt wind* is different from them all.

There are alſo *verbs*, or words of action, which are equivocal, as well as *nouns* or *names*. The words to *bear*, to *take*, to *come*, to *get*, are ſufficient inſtances of it; as when we ſay, to bear *a burden*, to bear *ſorrow* or reproach, to bear *a name*, to bear

bear *a grudge*, to bear *fruit*, or to bear *children*; the word *bear* is uſed in very different ſenſes: And ſo is the word *get*, when we ſay, to get *money*, to get *in*, to get *off*, to get *ready*, to get a *ſtomach*, and to get a *cold*, &c.

There is alſo a great deal of ambiguity in many of the Engliſh particles; as, *but*, *before*, *beſide*, *with*, *without*, *that*, *then*, *there*, *for*, *forth*, *above*, *about*, &c. of which grammars and dictionaries will ſufficiently inform us.

SECT. VII.

Various Kinds of Equivocal Words.

IT would be endleſs to run through all the varieties of words and terms which have different ſenſes applied to them; I ſhall only mention therefore a few of the moſt remarkable and moſt uſeful diſtinctions among them.

1*ſt*, The firſt diviſion of equivocal words lets us know that ſome are equivocal *only in their ſound* or *pronunciation*; others are equivocal *only in writing*; and others *both in writing and in ſound*.

Words equivocal in *ſound only* are ſuch as theſe; the *rein* of a bridle, which hath the ſame ſound with the *reign* of a king, or a ſhower of *rain*; but all three have different letters, and diſtinct ſpelling. So, *might*, or ſtrength, is equivocal in ſound, but differs in writing from *mite*, a little animal, or a ſmall piece of money. And the verb *to write* has the ſame ſound with *wright* a workman, *right* or equity, and *rite* or ceremony; but it is ſpelled very differently in them all.

Words equivocal *in writing only* are ſuch as theſe. To *tear* to pieces, has the ſame ſpelling with a *tear*: To *lead*, or guide, has the ſame letters as *lead*, the metal: And a *bowl* for recreation, is written the

ſame way as a *bowl* for drinking; but the pronunciation for all theſe is different.

But thoſe words which are moſt commonly and juſtly called *equivocal*, are ſuch as are both written and pronounced the ſame way, and yet have different ſenſes or ideas belonging to them; ſuch are all the inſtances which were given in the preceding ſection.

Among the words which are equivocal in *ſound only*, and *not in writing*, there is a large field for perſons who delight in jeſts and puns, in riddles and quibbles, to ſport themſelves. This ſort of words is alſo uſed by wanton perſons to convey *lewd ideas*, under the covert of expreſſions capable of a *chaſte* meaning, which are called *double entendres*; or when perſons ſpeak *falſhood* with a deſign to deceive, under the covert of *truth*; though, it muſt be confeſſed, that all ſorts of equivocal words yield ſufficient matter for ſuch purpoſes.

There are many caſes alſo, wherein an equivocal word is uſed, for the ſake of *decency*, to cover a *foul idea*: For the moſt chaſte and modeſt, and well-bred perſons, having ſometimes a neceſſity to ſpeak of the things of nature, convey their ideas in the moſt inoffenſive language by this means. And indeed, the mere poverty of all languages makes it neceſſary to uſe *equivocal words* upon many occaſions, as the common writings of men, and even the holy book of God, ſufficiently manifeſt.

2*dly*, Equivocal words are uſually diſtinguiſhed, according to their *original*, into ſuch, whoſe various ſenſes ariſe from *mere chance* or *accident*, and ſuch as are made equivocal by *deſign*; as the word *bear* ſignifies a *ſhaggy beaſt*, and it ſignifies alſo to *bear* or *carry a burden*; this ſeems to be the mere effect of *chance*: But if I call my dog *bear*, becauſe he is ſhaggy, or call one of the northern conſtellations by that name, from a fancied ſituation of the ſtars in the ſhape of that animal, then it

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is by *deſign* that the word is made yet further equivocal.

But becauſe I think this common account of the ſpring or origin of equivocal words is too ſlight and imperfect, I ſhall reſerve this ſubject to be treated of by itſelf, and proceed to the *third diviſion*.

3*dly*, Ambiguous or *equivocal* words are ſuch as are ſometimes taken in a *large and general* ſenſe, and ſometimes in a ſenſe *more ſtrict and limited*, and have different ideas affixed to them accordingly. *Religion*, or *virtue*, taken in a large ſenſe, includes both our *duty to God* and *our neighbour*; but in a more ſtrict, limited, and proper ſenſe, *virtue* ſignifies our *duty towards men*, and *religion* our *duty to God*. *Virtue* may yet be taken in the ſtricteſt ſenſe, and then it ſignifies *power* or *courage*, which is the ſenſe of it in ſome places of the New Teſtament. So *grace*, taken in a large ſenſe, means the *favour of God*, and all the ſpiritual bleſſings that proceed from it, (which is a frequent ſenſe of it in the Bible), but in a limited ſenſe it ſignifies *the habit of holineſs* wrought in us by divine favour, or a *complex idea of the Chriſtian virtues*. It may alſo be taken in the ſtricteſt ſenſe, and thus it ſignifies any *ſingle Chriſtian virtue*, as in 2 *Cor.* viii. 6. 7. where it is uſed for *liberality*. So a *city*, in a ſtrict and proper ſenſe, means the *houſes incloſed within the walls*; in a larger ſenſe it reaches to all the *ſuburbs*.

This *larger* and *ſtricter* ſenſe of a word is uſed in almoſt all the ſciences, as well as in theology, and in common life. The word *geography*, taken in a *ſtrict ſenſe*, ſignifies the knowledge of the circles of the earthly globe, and the ſituation of the various parts of the earth; when it is taken in a *little larger ſenſe*, it includes the knowledge of the ſeas alſo; and in the *largeſt ſenſe* of all, it extends to the various cuſtoms, habits, and governments of nations. When an aſtronomer uſes the word *ſtar* in its pro-

per and ſtrict ſenſe, it is applied only to the *fixed ſtars*, but in a large ſenſe it includes the *planets* alſo.

This equivocal ſenſe of words belongs alſo to many proper names: So *Aſia*, taken in the largeſt ſenſe, is one quarter of the world; in a more limited ſenſe it ſignifies *Natolia*, or the *Leſſer Aſia*; but in the ſtricteſt ſenſe it means no more than one little province in *Natolia*, where ſtood the cities of *Epheſus*, *Smyrna*, *Sardis*, &c. And this is the moſt frequent ſenſe of it in the New Teſtament. *Flanders* and *Holland*, in a ſtrict ſenſe, are but two ſingle provinces among the ſeventeen, but in a large ſenſe *Holland* includes ſeven of them, and *Flanders* ten.

There are alſo ſome very common and little words in all languages, that are uſed in a more *extenſive*, or more *limited* ſenſe; ſuch as *all*, *every*, *whatſoever*, &c. When the apoſtle ſays, *all men have ſinned*, and *all men muſt die*, *all* is taken in its moſt univerſal and extenſive ſenſe, including *all mankind*, Rom. v. 12. When he appoints *prayer to be made for all men*, it appears, by the following verſes, that he reſtrains the word *all* to ſignify chiefly *all ranks and degrees of men*, 1 Tim. ii 1. But when St. *Paul* ſays, *I pleaſe all men in all things*, 1 Cor. x. 33. the word *all* is exceedingly limited, for it reaches no farther than that he pleaſed *all* thoſe men *whom he converſed with* in *all* things that were *lawful*.

4thly, Equivocal words are, in the fourth place, diſtinguiſhed by their *literal* or *figurative* ſenſe. Words are uſed in a *proper* or *literal* ſenſe when they are deſigned to ſignify thoſe ideas for which they were originally made, or to which they are primarily and generally annexed; but they are uſed in a *figurative* or *tropical* ſenſe when they are made to ſignify ſome things, which only bear either a *reference* or a *reſemblance* to the primary ideas of them

them. So when two princes contend by their armies, we ſay they are at *war* in a proper ſenſe; but when we ſay there is a *war* betwixt the winds and the waves in a ſtorm, this is called *figurative*, and the peculiar figure is a *metaphor*. So when the ſcripture ſays, *Riches make themſelves wings, and fly away as an eagle toward heaven*, the *wings* and the *flight* of the eagle are *proper* expreſſions; but when *flight* and *wings* are applied to *riches*, it is only by way of *figure* and *metaphor*. So when a man is ſaid to *repent*, or *laugh*, or *grieve*, it is literally taken; but when God is ſaid to *be grieved*, to *repent*, or *laugh*, &c, theſe are all figurative expreſſions borrowed from a reſemblance to mankind. And when the words *Job* or *Eſther* are uſed to ſignify thoſe very perſons, it is the *literal* ſenſe of them; but when they ſignify thoſe two books of ſcripture, this is a *figurative* ſenſe. The names of *Horace*, *Juvenal*, and *Milton*, are uſed in the ſame manner, either for *books* or *men*.

When a word, which originally ſignifies any particular idea or object, is attributed to ſeveral other objects, not ſo much by way of *reſemblance*, but rather on the account of ſome evident *reference* or *relation* to the original idea, this is ſometimes peculiarly called an *analogical* word; ſo a *ſound* or *healthy pulſe*, a *ſound digeſtion*, *ſound ſleep*, are all ſo called with *reference* to a *ſound* and *healthy* conſtitution; but if you ſpeak of *ſound doctrine*, or *ſound ſpeech*, this is by way of *reſemblance* to health; and the words are *metaphorical*: Yet many times *analogy* and *metaphor* are uſed promiſcuouſly in the ſame ſenſe, and not diſtinguiſhed.

Here *note*, That the deſign of *metaphorical language*, and *figures of ſpeech*, is not merely to repreſent our *ideas*, but to repreſent them with vivacity, ſpirit, affection, and power; and though they often make a deeper impreſſion on the mind of the hearer, yet they do as often lead him into a miſ-

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take, if they are uſed at improper times and places. Therefore, where the deſign of the ſpeaker or writer is merely to *explain*, *inſtruct*, and to lead into the knowledge of naked truth, he ought for the moſt part to uſe *plain* and *proper* words if the language affords them, and not to deal much in *figurative* ſpeech. But this ſort of terms is uſed very profitably by *poets* and *orators*, whoſe buſineſs is to move, and perſuade, and work on the paſſions, as well as on the underſtanding. Figures are alſo happily employed in proverbial *moral ſayings*, by the *wiſeſt* and the *beſt* of men, to impreſs them deeper on the memory by *ſenſible images*; and they are often uſed for other valuable purpoſes in the *ſacred writings*.

5*thly*, I might adjoin another *ſort of equivocal words*; as there are ſome which have a different meaning in *common language* from what they have in the *ſciences*; the word *paſſion* ſignifies the *receiving any action* in a large philoſophical ſenſe; in a more limited philoſophical ſenſe, it ſignifies *any of the affections of human nature, as love, fear, joy, ſorrow*, &c. But the common people confine it only to *anger*: So the word *ſimple* philoſophically ſignifies *ſingle*, but vulgarly it is uſed for *fooliſh*.

6*thly*, Other equivocal words are uſed ſometimes in an *abſolute* ſenſe, as when God is called *perfect*; which allows of no defect; and ſometimes in a *comparative* ſenſe, as good men are oftentimes called *perfect* in ſcripture, in compariſon of thoſe who are much inferior to them in knowledge or holineſs: But I have dwelt rather too long upon this ſubject already, therefore I add no more.

SECT.

SECT. VIII.

The Origin or Cauſes of Equivocal Words.

NOW, that we may become more ſkilful in guarding ourſelves and others againſt the danger of miſtakes which may ariſe from *equivocal* words, it may not be amiſs to conclude this chapter with a ſhort account of the various ways or means whereby a word changes its ſignification, or acquires any new ſenſe, and thus becomes *equivocal*, eſpecially if it keeps its old ſenſe alſo.

1. *Mere chance* ſometimes gives the ſame word different ſenſes; as the word *light* ſignifies a *body that is not heavy*; and it alſo ſignifies the *effect of ſun-beams*, or the *medium whereby we ſee objects*: This is merely accidental, for there ſeems to be no connection between theſe two ſenſes, nor any reaſon for them.

2. *Error* and *miſtake* is another occaſion of giving various ſenſes to the ſame word; as when different perſons read the names of *prieſt*, *biſhop*, *church*, *Eaſter*, &c. in the New Teſtament, they affix different ideas to them, for want of acquaintance with the true meaning of the ſacred writer; though it muſt be confeſſed, theſe various ſenſes, which might ariſe at firſt from honeſt miſtake, may be culpably ſupported and propagated by intereſt, ambition, prejudice, and a party-ſpirit, on any ſide.

3. *Time* and *cuſtom* alters the meaning of words. *Knave* heretofore ſignified a *diligent ſervant* (*Gnavus*), and a *villain* was an *under tenant to the lord of the mannour* (*villicus*), but now both theſe words carry an idea of wickedneſs and reproach with them. A *ballad* once ſignified a ſolemn and ſacred ſong, as well as one that is trivial, when *Solomon's Song* was called the *Ballad of ballads*; but now it is applied to nothing but trifling verſe, or comical ſubjects.

4. Words change their ſenſe by *figures* and *metaphors*,

phors, which are derived from ſome *real anology* or *reſemblance* between ſeveral things; as when *wings* and *flight* are applied to *riches*, it ſignifies only, that the owner may as eaſily loſe them as he would loſe a bird who flew away with wings.

And I think, under this head, we may rank thoſe words which ſignify different ideas, by a ſort of an unaccountable far-fetcht *analogy*, or diſtant *reſemblance*, that fancy has introduced between one thing and another; as when we ſay, the *meat* is *green*, when it is *half-roaſted*: We ſpeak of *airing linen by the fire*, when we mean *drying* or *warming* it: We call for *round coals* for the chimney, when we mean *large ſquare ones*: And we talk of the *wing of a rabbit*, when we mean the *fore-leg*: The true reaſon of theſe appellations we leave to the critics.

5. Words alſo change their ſenſe by the *ſpecial occaſion* of uſing them, *the peculiar manner of pronunciation*, the *ſound of the voice*, the *motion of the face*, or *geſtures of the body*; ſo when an angry maſter ſays to his ſervant, *it is bravely done!* or *you are a fine gentleman!* he means juſt the contrary; namely, *it is very ill done; you are a ſorry fellow*: It is one way of giving a ſevere reproach, for the words are ſpoken by way of *ſarcaſm*, or *irony*.

6. Words are applied to various ſenſes, by *new ideas* appearing or ariſing faſter than *new words* are framed. So when *gunpowder* was found out, the word *powder*, which before ſignified only *duſt*, was made then to ſignify that *mixture* or *compoſition of nitre, charcoal*, &c. And the name *cannon*, which before ſignified a *law* or a *rule*, is now alſo given to a *great* gun, which gives laws to nations. So footboys, who had frequently the common name of *Jack* given them, were kept to turn the ſpit, or to pull off their maſter's boots; but when inſtruments were invented for both thoſe ſervices, they were both called *jacks*, though one was of iron, the other of wood, and very different in their form.

7. Words

7. Words alter their ſignifications according to the *ideas of the various perſons, ſects*, or *parties*, who uſe them, as we have hinted before; ſo when a *Papiſt* uſes the word *heretics*, he generally means the *Proteſtants*; when a *Proteſtant* uſes the word, he means *any perſons who were wilfully* (and perhaps contentiouſly) *obſtinate in fundamental errors*. When a Jew ſpeaks of the *true religion*, he means the *inſtitution of Moſes*; when a *Turk* mentions it, he intends the *doctrine of Mahomet*; but when a *Chriſtian* makes uſe of it, he deſigns to ſignify *Chriſtianity*, or the *truths and precepts of the goſpel*.

8. Words have different ſignifications according to the *book, writing*, or *diſcourſe* in which they ſtand. So in a treatiſe of *anatomy*, a *foot* ſignifies that *member in the body of a man*: But in a book of *geometry* or *menſuration*, it ſignifies *twelve inches*.

If I had room to exemplify moſt of theſe particulars in one ſingle word, I know not where to chooſe a fitter than the word *ſound*, which ſeems as it were by *chance* to ſignify three diſtinct ideas, namely, *healthy*, (from *ſanus*) as a ſound *body*; *noiſe*, (from *ſonus*) as a *ſhrill* ſound; and to *ſound* the ſea (perhaps from the French *ſonde*, a probe, or an inſtrument to find the depth of water). From theſe three, which I may call *original ſenſes*, various *derivative ſenſes* ariſe; as ſound *ſleep*, ſound *lungs*, ſound *wind* and *limb*, a ſound *heart*, a ſound *mind*, ſound *doctrine*, a ſound *divine*, ſound *reaſon*, a ſound *caſk*, ſound *timber*, a ſound *reproof*, to beat *one* ſoundly, to ſound one's *meaning* or *inclination*, and a ſound or narrow *ſea*; turn theſe all into Latin, and the variety will appear plain.

I confeſs ſome few of theſe which I have mentioned, as the different ſprings of *equivocal* words, may be reduced in ſome caſes to the ſame original: But it muſt alſo be granted, that there may be other ways beſides theſe whereby a word comes to extend its ſignification, to include various ideas, and become

come *equivocal*. And though it is the business of a grammarian to pursue these remarks with more variety and particularity, yet it is also the work of a *logician* to give notice of these things, lest darkness, confusion, and perplexity, be brought into our conceptions, by the means of words, and thence our *judgments* and *reasonings* become erroneous.

CHAP. V.

General Directions relating to our IDEAS.

Direction I. *Furnish yourselves with a rich variety of ideas*; acquaint yourselves with things ancient and modern; things natural, civil and religious; things domestic and national; things of your native land, and of foreign countries; things present, past and future; and, above all, be well acquainted with God and yourselves; learn animal nature, and the workings of your own spirits.

Such a general acquaintance with things will be of very great advantage.

The *first benefit* of it is this; it will assist the use of *reason* in all its following operations; it will teach you to *judge* of things *aright*, to *argue justly*, and to *methodize* your thoughts with *accuracy*. When you shall find several things akin to each other, and several different from each other, agreeing in some part of their idea, and disagreeing in other parts, you will range your ideas in better order, you will be more easily led into a distinct knowledge of things, and will obtain a rich store of proper thoughts and arguments upon all occasions.

You will tell me, perhaps, That you design the study of the *law* or *divinity*; and what good can *natural philosophy* or *mathematics* do you, or any other science,

ſcience, not directly ſubordinate to your chief deſign? But let it be conſidered, that all ſciences have a ſort of mutual connection; and knowledge of all kinds fits the mind to reaſon and judge better concerning any particular ſubject. I have known a judge upon the bench betray his ignorance, and appear a little confuſed in his ſentiments, about a caſe of ſuſpected murder brought before him, for want of ſome acquaintance with *animal nature* and *philoſophy*.

Another *benefit* of it is this; ſuch a large and general acquaintance with things will ſecure you from perpetual *admirations* and *ſurpriſes*, and guard you againſt that weakneſs of ignorant perſons who have never ſeen any thing beyond the confines of their own dwelling, and therefore they wonder at almoſt every thing they ſee; every thing beyond the ſmoke of their own chimney, and the reach of their own windows, is new and ſtrange to them.

A *third benefit* of ſuch an univerſal aquaintance with things is this; it will keep you from being too *poſitive* and *dogmatical*, from an exceſs of *credulity* and *unbelief*, that is, a readineſs to believe or to deny every thing at firſt hearing; when you ſhall have often ſeen, that ſtrange and uncommon things, which often ſeem incredible, are found to be true; and things very commonly received as true, have been found falſe.

The *way of attaining ſuch an extenſive treaſure of ideas*, is with diligence to apply yourſelf to read the beſt books; converſe with the moſt knowing and the wiſeſt of men; and endeavour to improve by every perſon in whoſe company you are; ſuffer no hour to paſs away in lazy idleneſs, an impertinent chattering, or uſeleſs trifles: Viſit other cities and countries when you have ſeen your own, under the care of one who can teach you to profit by travelling, and to make wiſe obſervations; indulge a juſt curioſity in ſeeing the wonders of art and nature;

ſearch

ſearch into things yourſelves, as well as learn them from others; be acquainted with men as well as books; learn all things as much as you can at firſt hand; and let as many of your ideas as poſſible be the repreſentations of things, and not merely the repreſentations of other mens ideas: Thus your ſoul, like ſome noble building, ſhall be richly furniſhed with original paintings, and not with mere copies.

Direct. II. *Uſe the moſt proper methods to retain that treaſure of ideas which you have acquired;* for the mind is ready to let many of them ſlip, unleſs ſome pains and labour be taken to fix them upon the memory.

And more eſpecially let thoſe ideas be laid up and preſerved with the greateſt care, which are moſt directly ſuited, either to your *eternal welfare*, as a *Chriſtian*, or to your particular *ſtation* and *profeſſion* in this life; for, though the former rule recommends an univerſal acquaintance with things, yet it is but a more general and ſuperficial knowledge that is required or expected of any man, in things which are utterly foreign to his own buſineſs: But it is neceſſary you ſhould have a more particular and accurate acquaintance with thoſe things that refer to your peculiar province and duty in this life, or your happineſs in another.

There are ſome perſons who never arrive at any deep, ſolid, or valuable knowledge in any ſcience, or any buſineſs of life, becauſe they are perpetually fluttering over the ſurface of things in a curious and wandering ſearch of infinite variety; ever hearing, reading, or aſking after ſomething new, but impatient of any labour to lay up and preſerve the ideas they have gained: Their ſouls may be compared to a looking-glaſs, that whereſoever you turn it, it receives the images of all objects, but retains none.

In order to preſerve your treaſure of ideas, and the

he knowledge you have gained, purſue the fol-owing advices, eſpecially in your younger years.

1. *Recollect every day the things you have ſeen, or heard, or read,* which may have made an addition o your underſtanding: Read the writings of God and men with diligence and perpetual reviews: Be not fond of haſtening to a new book, or a new chapter, till you have well fixed and eſtabliſhed in your minds what was uſeful in the laſt: Make uſe of your memory in this manner, and you will ſenſibly experience a gradual improvement of it, while you take care not to load it to exceſs.

2. *Talk over the things which you have ſeen, heard, or learnt, with ſome proper acquaintance:* This will make a freſh impreſſion on your memory; and if you have no fellow-ſtudent at hand, none of equal rank with yourſelves, tell it over to any of your acquaintance, where you can do it with propriety and decency; and whether they learn any thing by it or no, your own repetition of it will be an improvement to yourſelf: And this practice alſo will furniſh you with a *variety of words*, and copious language, to expreſs your thoughts upon all occaſions.

3. Commit to writing ſome of the moſt conſiderable improvements which you daily make, at leaſt ſuch hints as may recal them again to your mind, when perhaps they are vaniſhed and loſt. And here I think Mr *Locke's* method of *adverſaria*, or *common-places*, which he deſcribes in the end of the firſt volume of his *poſthumous works*, is the beſt; uſing no learned method at all, ſetting down things as they occur, leaving a diſtinct page for each ſubject, and making an index to the pages.

At the end of every week, or month, or year, you may review your remarks, for theſe reaſons: *Firſt, To judge of your own improvement;* when you ſhall find that many of your younger collections are either weak and trifling; or if they are juſt and proper, yet they are grown now ſo familiar to you, that you

you will thereby ſee your own advancement in knowledge. And, in the next place, what remarks you find there worthy of your riper obſervation, you may *note them with a marginal ſtar*, inſtead of tranſcribing them, as being worthy of your ſecond year's review, when the others are neglected,

To ſhorten ſomething of this labour, if the books which you read are your own, mark with a pen, or pencil, the moſt conſiderable things in them which you deſire to remember. Thus you may read that book the ſecond time over with half the trouble, by your eye running over the paragraphs which your pencil has noted. It is but a very weak objection againſt this practice to ſay, *I ſhall ſpoil my book*; for I perſuade myſelf, that you did not buy it as a *book-ſeller*, to ſell it again for gain, but as a *ſcholar*, to improve your mind by it; and if the mind be improved, your advantage is abundant, though your book yields leſs money to your executors *.

Direct. III. *As you proceed both in learning and in life, make a wiſe obſervation what are the ideas, what the diſcourſes and the parts of knowledge that have been more or leſs uſeful to yourſelf or others.* In our younger years, while we are furniſhing our minds with a treaſure of ideas, our experience is but ſmall, and our judgment weak; it is therefore impoſſible at that age to determine aright concerning the real *advantage* and *uſefulneſs* of many things we learn. But, when age and experience have matured your judgment,

* *Note*, This advice of *writing, marking*, and *reviewing*, your marks, refers chiefly to thoſe *occaſional notions* you meet with either in reading or in converſation: But when you are *directly* and *profeſſedly* purſuing any ſubject of knowledge in a good ſyſtem in your younger years, the *ſyſtem* itſelf is your *common-place-book*, and muſt be intirely reviewed. The ſame may be ſaid concerning any *treatiſe* which cloſely, ſuccinctly, and accurately handles any particular theme

ment, then you will gradually drop the more *uſeleſs part* of your younger *furniture*, and be more ſolicitous to retain that which is moſt neceſſary for your welfare in this life, or a better. Hereby you will come to make the ſame complaint that almoſt every learned man has done after long experience in ſtudy, and in the affairs of human life and religion: *Alas! how many hours, and days, and months, have I loſt in purſuing ſome parts of learning, and in reading ſome authors, which have turned to no other account, but to inform me that they were not worth my labour and purſuit!* Happy the man who has a wiſe tutor to conduct him through all the ſciences in the firſt years of his ſtudy; and who has a prudent friend always at hand to point out to him, from experience, how much of every ſcience is worth his purſuit! And happy the ſtudent that is ſo wiſe as to follow ſuch advice!

Direct. IV. *Learn to acquire a government over your ideas and your thoughts, that they may come when they are called, and depart when they are bidden.* There are ſome thoughts that riſe and intrude upon us while we ſhun them; there are others that fly from us, when we would hold and fix them.

If the *ideas* which you would willingly make the matter of your preſent meditation *are ready to fly from you*, you muſt be obſtinate in the purſuit of them by an habit of fixed meditation; you muſt keep your ſoul to the work, when it is ready to ſtart aſide every moment, unleſs you will abandon yourſelf to be a ſlave to every wild imagination. It is a common, but it is an unhappy and a ſhameful thing, that every trifle that comes acroſs the ſenſes or fancy ſhould divert us, that a buzzing fly ſhould teaze our ſpirits, and ſcatter our beſt ideas: But we muſt learn to be deaf to, and regardleſs of other things, beſides that which we make the preſent ſubject of our meditation: And in order to help a wandering and

and fickle humour, it is proper to have a book or paper in our hands. which has ſome proper hints of the ſubject we deſign to purſue. We muſt be reſolute and laborious, and ſometimes conflict with ourſelves, if we would be wiſe and learned.

Yet I would not be too ſevere in this *rule*: It muſt be confeſſed there are *ſeaſons* when the mind, or rather the brain, is *over tired* or *jaded* with ſtudy and thinking; or upon ſome other accounts animal nature may be *languid* or *cloudy*, and unfit to aſſiſt the ſpirit in meditation; at ſuch ſeaſons (provided that they return not too often) it is better ſometimes to yield to the preſent indiſpoſition; for if nature intirely reſiſt, nothing can be done to the purpoſe, at leaſt in that ſubject or ſcience. Then you may think it proper to give yourſelf up to ſome hours of *leiſure* and *recreation*, or *uſeful idleneſs*; or if not, then turn your thoughts to ſome *other alluring ſubject*, and pore no longer upon the *firſt*, till ſome brighter or more favourable moments ariſe. A ſtudent ſhall do more in one hour, when all things concur to invite him to any ſpecial ſtudy, than in four hours, at a dull and improper ſeaſon.

I would alſo give the ſame advice, if ſome *vain*, or *worthleſs*, or *fooliſh idea*, will croud itſelf into your thoughts; and if you find that all your labour and wreſtling cannot defend yourſelf from it, then divert the importunity of that which offends you, by turning your thoughts to ſome entertaining ſubject, that may amuſe you a little, and draw you off from the troubleſome and impoſing gueſt; and many a time alſo, in ſuch a caſe, when the impertinent and intruding ideas would divert from preſent duty, *devotion* and *prayer* have been very ſucceſsful to overcome ſuch obſtinate troublers of the peace and profit of the ſoul.

If the natural genius and temper be too *volatile*, *fickle*, and *wandering*, ſuch perſons ought in a more ſpecial manner to apply themſelves to *mathematical learning*,

learning, and to begin their ſtudies with *arithmetic* and *geometry*; wherein new truths continually ariſing to the mind, out of the plaineſt and eaſieſt principles, will allure the thoughts with incredible pleaſure in the purſuit: This will give the ſtudent ſuch a delightful taſte of reaſoning, as will fix his attention to the ſingle ſubject which he purſues, and by degrees will cure the habitual levity of his ſpirit: But let him not indulge aud purſue theſe ſo far, as to neglect the prime ſtudies of his deſigned profeſſion.

CHAP. VI.

Special Rules to direct our Conceptions of Things.

A Great part of what has been already written is deſigned to lay a foundation for thoſe *rules* which may guide and regulate our conceptions of things; this is our main buſineſs and deſign in the *firſt part of logic*. Now, if we can but direct our thoughts to a juſt and happy manner in *forming* our ideas of things, the other operations of the mind will not ſo eaſily be perverted; becauſe moſt of our errors in *judgment*, and the weakneſs, fallacy, and miſtakes of our *argumentation*, proceed from the darkneſs, confuſion, defect, or ſome other irregularity in our conceptions.

The rules to aſſiſt and direct our conceptions are theſe:

1. Conceive of things *clearly and diſtinctly* in their *own natures*.
2. Conceive of things *completely* in all their *parts*.
3. Conceive of things *comprehenſively* in all their *properties* and *relations*.

4. Conceive of things *extenſively* in all their *kinds*.
5. Conceive of things *orderly*, or in a proper *method*.

SECT. I.

Of gaining Clear and Diſtinct IDEAS.

THE firſt rule is this, *Seek after a clear and diſtinct conception of things as they are in their own nature, and do not content yourſelves with obſcure and confuſed ideas, where clearer are to be attained.*

There are ſome things indeed whereof diſtinct ideas are ſcarce attainable; they ſeem to ſurpaſs the capacity of the underſtanding in our preſent ſtate; ſuch are the notions of *eternal*, *immenſe*, *infinite*, whether this *infinity* be applied to *number*, as an infinite multitude; to *quantity*, as infinite length, or breadth; to *powers* and *perfections*, as ſtrength, wiſdom, or goodneſs, infinite, &c. Though mathematicians, in their way, demonſtrate ſeveral things in the doctrine of *infinites*, yet there are ſtill ſome inſolvable difficulties that attend the ideas of *infinity*, when it is applied to mind or body; and while it is in reality but *an idea ever growing*, we cannot have ſo clear and diſtinct a conception of it as to ſecure us from miſtakes in ſome of our reaſonings about it.

There are many other things that belong to the material world, wherein the ſharpeſt philoſophers have never yet arrived at clear and diſtinct ideas; ſuch as the particular *ſhape*, *ſituation*, *contexture*, *and motion of the ſmall particles of minerals*, *metals*, *plants*, &c. whereby their very natures and eſſences are diſtinguiſhed from each other. Nor have we either ſenſes or inſtruments ſufficiently nice and accurate to find them out. There are other things in the world of ſpirits wherein our ideas are very dark and confuſed, ſuch as their *union with animal nature*,

nature, the way of their acting on material beings, and their *converſe with each other*. And though it is a laudable ambition to ſearch what may be known of theſe matters, yet it is a vaſt hindrance to the enrichment of our underſtandings, if we ſpend too much of our time and pains among *infinites* and *unſearchables*, and thoſe things for the inveſtigation whereof we are not furniſhed with proper faculties in the preſent ſtate. It is therefore of great ſervice to the true improvement of the mind to diſtinguiſh well between *knowables* and *unknowables*.

As far as things are *knowable* by us, it is of excellent uſe to accuſtom ourſelves *to clear and diſtinct ideas*. Now, among many other occaſions of the darkneſs and miſtakes of our minds, there are theſe two things which moſt remarkably bring *confuſion* into our *ideas*.

1. That from our infancy we have had the ideas of things ſo far connected with the *ideas of words*, that we often miſtake words for things, we mingle and confound one with the other.

2. From our youngeſt years we have been ever ready to conſider things not ſo much in their own natures, as in their *various reſpects* to ourſelves, and chiefly to our *ſenſes*; and we have alſo joined and mingled the ideas of *ſome things*, with many *other ideas*, to which they were not akin in their own natures.

In order therefore to a *clear* and *diſtinct* knowledge of things, we muſt unclothe them of all theſe *relations* and *mixtures*, that we may contemplate them naked, and *in their own natures*, and diſtinguiſh the ſubject that we have in view from all other ſubjects whatſoever: Now, to perform this well, we muſt here conſider the *definition of words*, and the *definition of things*.

SECT. II.

Of the definition of Words or Names.

IF we could conceive of things as angels and unbodied ſpirits do, without involving them in thoſe clouds which words and language throw upon them, we ſhould ſeldom be in danger of ſuch miſtakes as are perpetually committed by us in the preſent ſtate; and indeed it would be of unknown advantage to us to accuſtom ourſelves to *form ideas of things without words*, that we might know them in their *own proper natures*. But, ſince we muſt uſe *words*, both to learn and communicate moſt of our notions, we ſhould do it with juſt rules of caution. I have already declared in part, how often and by what means our words become the occaſion of errors in our conceptions of things. To remedy ſuch inconveniencies, we muſt get an exact *definition of the words* we make uſe of, that is, we muſt determine preciſely the ſenſe of our words, which is called the *definition of the name*.

Now a *definition of the name* being only a declaration in what ſenſe the word is uſed, or what idea or object we mean by it, this may be expreſſed by any one or more of the properties, effects, or circumſtances of that object which do ſufficiently diſtinguiſh it from other objects: As, if I were to tell what I mean by the word *air*, I may ſay, it is *that thin matter which we breathe in and breathe out continually*; or it is *that fluid body in which the birds fly a little above the earth*; or it is *that inviſible matter which fills all places near the earth, or which immediately encompaſſes the globe of earth and water*. So if I would tell what I mean by *light*, I would ſay it is *that medium whereby we ſee the colours and ſhapes of things*; or it is *that which diſtinguiſhes the day from the night*. If I were aſked what I mean by *religion*,

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I would anſwer, it is a *collection of all our duties to God*, if taken in a ſtrict and limited ſenſe; but, if taken in a large ſenſe, it is a *collection of all our duties both to God and man*. Theſe are called the *definitions of the name*.

Note, In defining the name there is no neceſſity that we ſhould be acquainted with the intimate eſſence or nature of the thing; for any manner of *deſcription* that will but ſufficiently acquaint another perſon what we mean by ſuch a word, is a ſufficient *definition for the name*. And on this account a *ſynonymous* word, or a mere *negation of the contrary*, a *tranſlation of the word* into another tongue, or a *grammatical explication* of it, is ſometimes ſufficient for this purpoſe; as if one would know what I mean by a *ſphere*, I tell him it is a *globe*; if he aſk what is a *triangle*, it is that *which has three angles*; or an *oval* is that which has the *ſhape of an egg*. *Dark* is that which has *no light*; *aſthma* is a *difficulty of breathing*; a *diaphoretic* medicine, or a *ſudorific*, is ſomething that will *provoke ſweating*; and an *inſolvent*, is a man that *cannot pay his debts*.

Since it is the deſign of *Logic*, not only to aſſiſt us in *learning* but in *teaching* alſo, it is neceſſary that we ſhould be furniſhed with ſome particular directions relating to the *definition of names*, both in *teaching* and *learning*.

SECT. III.

Directions concerning the Definition of Names.

Direct. I. *HAVE a care of making uſe of mere words, inſtead of ideas*, that is, ſuch words as have no meaning, no definition belonging to them: *Do not always imagine that there are ideas whereſoever there are names*: For, though mankind hath ſo many millions of ideas more than they have names, yet ſo fooliſh and laviſh are we, that

too often we uſe ſome words in mere waſte, and have *no ideas* for them; or, at leaſt, our ideas are ſo exceedingly ſhattered and confuſed, broken and blended, various and unſettled, that they can ſignify nothing toward the improvement of the underſtanding. You will find a great deal of reaſon for this remark, if you read the *popiſh ſchoolmen*, or the *myſtic divines*.

Never reſt ſatisfied therefore with *mere words which have no ideas belonging to them*, or at leaſt *no ſettled and determined ideas*. Deal not in ſuch empty ware, whether you are a learner or a teacher; for hereby ſome perſons have made themſelves rich in words, and learned in their own eſteem; whereas, in reality, their underſtandings have been poor, and they knew nothing.

Let me give, for inſtance, ſome of thoſe writers or talkers who deal much in the words *nature*, *fate*, *luck*, *chance*, *perfection*, *power*, *life*, *fortune*, *inſtinct*, &c. and that even in the moſt calm and inſtructive parts of their diſcourſe; though neither they themſelves nor their hearers have any ſettled meaning under thoſe words; and thus they build up their reaſonings, and infer what they pleaſe, with an ambition of the name of learning, or of ſublime elevations in religion; whereas, in truth, they do but amuſe themſelves and their admirers with *ſwelling words of vanity, underſtanding neither what they ſay, nor whereof they affirm.* But this ſort of talk was reproved of old by the two chief apoſtles, St *Peter* and St *Paul*, 1 Tim. i. 7. and 2 Pet. ii 18.

When pretenders to philoſophy or good ſenſe grow fond of this ſort of learning, they dazzle and confound their weaker hearers, but fall under the neglect of the wiſe. The *Epicureans* are guilty of this fault when they aſcribe the formation of the world to *chance*: The *Ariſtotelians*, when they ſay, *Nature abhors a vacuum*: The *Stoicks*, when they talk of *fate*, which is ſuperior to the gods: And the

the *gameſters*, when they curſe their *ill-luck*, or hope for the favours of *fortune*. Whereas, if they would tell us, that, by the word *nature* they mean *the properties of any being*, or *the order of things eſtabliſhed at the creation*; that by the word *fate* they intend the *decrees of God*, or the *neceſſary connection and influence of ſecond cauſes and effects*; if by the word *luck* or *chance* they ſignify the *abſolute negation of any determinate cauſe*, or only *their ignorance of any ſuch cauſe*, we ſhould know how to converſe with them, and to aſſent to, or diſſent from, their opinions But, while they flutter in the dark, and make a noiſe with words which have no fixed ideas, they talk to the wind, and never can profit.

I would make this matter a little plainer ſtill by inſtances borrowed from the *Peripatetick* philoſophy, which was once taught in all the ſchools. The profeſſor fancies he has aſſigned the true reaſon why all *heavy bodies tend downward*, why *amber will draw feathers or ſtraws*, and the *loadſtone draw iron*, when he tells you that this is done by certain *gravitating* and *attractive qualities*, which proceed from the *ſubſtantial forms* of thoſe various bodies. He imagines that he has explained why the *loadſtone's north-pole* * *ſhall repel the north end of a magnetic needle, and attract the ſouth*, when he affirms, that this is done by its *ſympathy* with one end of it, and its *antipathy* againſt the other end. Whereas, in truth, all theſe names of *ſympathy*, *antipathy*, *ſubſtantial forms*, and *qualities*, when they are put for the cauſes of theſe effects in bodies, are but hard words, which only expreſs a learned and pompous ignorance of the true cauſe of natural appearances; and in this ſenſe they are *mere words without ideas*.

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* *Note*, Some writers call that the *ſouth pole* of a loadſtone which attracts the *ſouth end* of the needle; but I chooſe to follow thoſe who call it the *north-pole*.

This will evidently appear, if one aſk me, *Why a concave mirror or convex glaſs will burn wood* in the ſun-beams, *or why a wedge will cleave it?* And I ſhould tell him, it is by an *uſtorious quality* in the mirror or glaſs, and by a *cleaving power* in the wedge, ariſing from a certain unknown *ſubſtantial form* in them, whence they derive theſe *qualities;* or if he ſhould aſk me, Why a *clock ſtrikes, and points to the hour?* and I ſhould ſay, it is by an *indicating form* and *ſonorific quality;* whereas I ought to tell him how the ſun-beams are collected and united by a *burning-glaſs;* whence the mechanical force of a *wedge* is derived; and what are the *wheels* and *ſprings*, the *pointer*, and *hammer*, and *bell*, whereby a *clock* gives notice of the time, both to the eye and the ear. But theſe *uſtorious* and *cleaving powers, ſonorious and indicating forms and qualities*, do either teach the inquirer nothing at all but what he knew before, or they are *mere words without ideas* *.

And there is many a man in the vulgar and in the

* It may be objected here, "And what does the modern "philoſopher, with all his detail of mathematical numbers, "and diagrams, do more than this toward the ſolution of "theſe difficulties? Does he not deſcribe *gravity* by a certain "*unknown force, whereby bodies tend downward to the center?* "Hath he found the certain and mechanical reaſons of *at-* "*traction, magnetiſm, &c.?*" I anſwer, That the moderns have found a thouſand things by applying mathematics to natural philoſophy, which the ancients were ignorant of; and, when they uſe any names of this kind, viz. *gravitation, attraction, &c.* they uſe them only to ſignify, that there are ſuch effects and ſuch cauſes, with a frequent confeſſion of their ignorance of the true ſprings of them: They do not pretend to make theſe words ſtand for the real cauſes of things, as though they thereby aſſigned the true philoſophical ſolution of theſe difficulties; for in this ſenſe they will ſtill be words without ideas, whether in the mouth of an old philoſopher or a new one.

the learned world, who imagines himſelf deeply ſkilled in the *controverſies of divinity*, whereas he has only furniſhed himſelf with a parcel of *ſcholaſtic* or *myſtyc* words, under ſome of which the authors themſelves had no juſt ideas; and the learner, when he hears, or pronounces them, hath ſcarce any ideas at all. Such ſort of words ſometimes have become matters of immortal contention, as though the goſpel could not ſtand without them; and yet the zealot perhaps knows little more of them than he does of *Shibboleth*, or *Higgaion*, *Selah*. Judges xii. 6. Pſal ix. 16.

Yet here I would lay down this *caution*, that there are ſeveral objects of which we have not a clear and diſtinct idea, much leſs an adequate or comprehenſive one, and yet we cannot call the names of theſe things *words without ideas*; ſuch are the *infinity* and *eternity* of God himſelf, the *union of our own ſoul and body*, the *union of the divine and human natures in Jeſus Chriſt*, the *operation of the Holy Spirit on the mind of man*, &c. Theſe ought not to be called *words without ideas*, for there is ſufficient evidence for the reality and certainty of the exiſtence of their objects; though there is ſome confuſion in our cleareſt conceptions of them; and our ideas of them, though imperfect, are yet ſufficient to converſe about them, ſo far as we have need, and to determine ſo much as is neceſſary for our own faith and practice.

Direct. II. *Do not ſuppoſe that the natures or eſſences of things always differ from one another as much as their names do.* There are various purpoſes in human life, for which we put very different names on the ſame thing, or on things whoſe natures are near akin; and thereby oftentimes, by making a new *nominal ſpecies*, we are ready to deceive ourſelves with the idea of another *real ſpecies of beings*: And

thoſe, whoſe underſtandings are led away by the mere ſound of words, fancy the *nature* of thoſe *things* to be very different whoſe names are ſo, and judge of them accordingly.

I may borrow a remarkable inſtance for my purpoſe almoſt out of every garden which contains a variety of plants in it. Moſt or all plants agree in this, that they have a *root*, *a ſtalk*, *leaves*, *buds*, *bloſſoms*, and *ſeeds*: But the gardener ranges them under very different names, as though they were really different kinds of beings, merely becauſe of the different uſe and ſervice to which they are applied by men: As, for inſtance, thoſe plants whoſe roots are eaten, ſhall appropriate the names of *roots* to themſelves; ſuch are *carrots*, *turnips*, *radiſhes*, &c. If the *leaves* are of chief uſe to us, then we call them *herbs*; as *ſage*, *mint*, *thyme*. If the *leaves* are eaten raw, they are termed *ſallad*; as *lettuce*, *purcelain*. If boiled, they become *potherbs*; as *ſpinnage*, *colworts*; and ſome of thoſe ſame plants, which are *potherbs*, in one family, are ſallad in another. If the buds are made our food, they are called *heads*, or *tops*; ſo *cabbage* heads, heads of *aſparagus* and *artichoaks*. If the bloſſom be of moſt importance, we call it a *flower*; ſuch are *daiſies*, *tulips*, and *carnations*, which are the mere bloſſoms of thoſe plants. If the *huſk* or *ſeeds* are eaten, they are called the *fruits of the ground*, as *peas*, *beans*, *ſtrawberries*, &c. If any part of the plant be of known and common uſe to us in *medicine*, we call it a *phyſical herb*, as *carduus*, *ſcurvy-graſs*; but if we count no part uſeful, we call it a *weed*, and throw it out of the garden; and yet perhaps our next neighbour knows ſome valuable property and uſe of it; he plants it in his garden, and gives it the title of an *herb*, or a *flower*. You ſee here how ſmall is the real diſtinction of theſe ſeveral *plants*, conſidered in their general nature as the *leſſer vegetables*: Yet what very different ideas we vulgarly form

form concerning them, and make different *ſpecies* of them, chiefly becauſe of the different names given them.

Now, when things are ſet in this clear light, it appears how ridiculous it would be for two perſons to contend, whether *dandelion* be an *herb* or a *weed;* whether it be a *potherb* or *ſallad;* when, by the cuſtom or fancy of different families, this one plant obtains all theſe names according to the ſeveral uſes of it, and the value that is put upon it.

Note here, That I find no manner of fault with the variety of names which are given to ſeveral plants, according to the various uſes we make of them. But I would not have our judgments impoſed upon hereby, to think that theſe mere *nominal* ſpecies, namely, *herbs*, *ſallad*, and *weeds*, become three *really* different ſpecies of beings, on this account, that they have different names and uſes. But I proceed to other inſtances.

It has been the cuſtom of mankind, when they have been angry with any thing, to add a *new ill name* to it, that they may convey thereby a hateful idea of it, though the nature of the thing ſtill abides the ſame. So the Papiſts call the Proteſtants *Heretics;* a profane perſon calls a man of piety a *Preciſian;* and, in the times of the civil war, in the laſt century, the Royaliſts called the Parliamentarians *Fanatics*, *Roundheads*, and *Sectaries*. And they in requital called the Royaliſts *Malignants:* But the partizans on each ſide were really neither better nor worſe for theſe names.

It has alſo been a frequent practice, on the other hand, to put *new favourable names* upon *ill ideas*, on purpoſe to take off the odium of them. But, notwithſtanding all theſe flattering names and titles, a man of profuſe generoſity is but a *ſpendthrift;* a natural ſon is a *baſtard* ſtill; a gallant is an *adulterer;* and a lady of pleaſure is a *whore*.

Direct. III. *Take heed of believing the nature and eſſence of two or more things to be certainly the ſame, becauſe they may have the ſame name given them.* This has been an unhappy and fatal occaſion of a thouſand miſtakes in the natural, in the civil, and in the religious affairs of life, both amongſt the vulgar and the learned. I ſhall give two or three inſtances, chiefly in the matters of *natural philoſophy*, having hinted ſeveral dangers of this kind relating to *theology* in the foregoing diſcourſe concerning *equivocal words*.

Our elder philoſophers have generally made uſe of the word SOUL to ſignify that principle whereby a plant grows, and they call it the *vegetative ſoul*: The principle of the animal motion of a brute has been likewiſe called a *ſoul*, and we have been taught to name it the *ſenſitive ſoul*; they have alſo given the name *ſoul* to that ſuperior principle in man, whereby he thinks, judges, reaſons, *&c.*; and, tho' they diſtinguiſhed this by the honourable title of the *rational ſoul*, yet, in common diſcourſe and writing, we leave out the words *vegetative*, *ſenſitive*, and *rational*, and make the word *ſoul* ſerve for all theſe principles: Thence we are led early into this imagination, that *there is a ſort of ſpiritual being in plants and in brutes, like that in men.* Whereas, if we did but abſtract and ſeparate theſe things from words, and compare the cauſe of *growth* in a *plant*, with the cauſe of *reaſoning* in *man*, (without the word *ſoul*) we ſhould never think that theſe two principles were at all like one another; nor ſhould we perhaps ſo eaſily and peremptorily conclude that *brutes* need an intelligent mind to perform their animal actions.

Another inſtance may be the word LIFE, which being attributed to *plants*, to *brutes*, and to *men*, and in each of them aſcribed to the *ſoul*, has very eaſily betrayed us from our infancy into this miſtake, *that the ſpirit or mind, or thinking principle, in man,*

man, is the ſpring of vegetative and animal life to his body: Whereas, it is evident, that if the ſpirit or thinking principle of man gave *life* to his animal nature, the way to ſave men from dying would not be to uſe medicines, but to perſuade the ſpirit to abide in the body.

I might derive a third inſtance from the word HEAT, which is uſed to ſignify the *ſenſation we have* when we are near the fire, as well as the *cauſe of that ſenſation*, which is in the fire itſelf; and thence we conclude from our infancy, that *there is a ſort of heat in the fire reſembling our own ſenſation, or the heat which we feel:* Whereas, in the fire, there is nothing but little particles of matter, of ſuch particular ſhapes, ſizes, ſituations and motions, as are fitted to impreſs ſuch motion on our fleſh or nerves as excite the ſenſe of *heat.* Now if this cauſe of our ſenſation in the fire had been always called by a diſtinct name, perhaps we had not been ſo rooted in this miſtake, that *the fire is hot with the ſame ſort of heat that we feel.* This will appear with more evidence when we conſider, that we are ſecure from the ſame miſtake where there have been two different names allotted to our *ſenſation*, and to the *cauſe of it;* as, we do not ſay, *pain is in the fire* that burns us, or *in the knife* that cuts and wounds us; for we call it *burning in the fire, cutting in the knife*, and *pain* only when it is in *ourſelves.*

Numerous inſtances of this kind might be derived from the words *ſweet, ſour, loud, ſhrill*, and almoſt all the *ſenſible qualities*, whoſe real natures we miſtake from our very infancy, and we are ready to ſuppoſe them to be the ſame in us, and in the bodies that cauſe them; partly, becauſe the words which ſignify our own ſenſations are applied alſo to ſignify thoſe unknown ſhapes and motions of the little corpuſcles which excite and cauſe thoſe ſenſations.

Direct

Direct. IV. *In converſation or reading, be diligent to find out the true ſenſe, or diſtinct idea, which the ſpeaker or writer affixes to his words, and eſpecially to thoſe words which are the chief ſubject of his diſcourſe.* As far as poſſible take heed leſt you put more or fewer ideas into one word than the perſon did when he wrote or ſpoke; and endeavour that your ideas of every word may be the ſame as his were: Then you will judge better of what he ſpeaks or writes.

It is for want of this that men quarrel in the dark; and that there are ſo many contentions in the ſeveral ſciences, and eſpecially in *divinity*. Multitudes of them ariſe from a miſtake of the true ſenſe or complete meaning in which words are uſed by the writer or ſpeaker; and hereby ſometimes *they ſeem to agree, when they really differ* in their ſentiments; and ſometimes *they ſeem to differ when they really agree.* Let me give an inſtance of both.

When one man by the word *church* ſhall underſtand *all that believe in Chriſt;* and another by the word *church* means only the *church of Rome:* they may both aſſent to this propoſition, *There is no ſalvation out of the church,* and yet their inward ſentiments may be widely different.

Again, if one writer ſhall affirm that *virtue added to faith is ſufficient to make a Chriſtian,* and another ſhall as zealouſly deny this propoſition, they ſeem to differ widely in words, and yet perhaps they may both really agree in ſentiment: If, by the word *virtue,* the affirmer intends our *whole duty to God and man;* and the denier by the word *virtue* means only courage, or at moſt our *duty toward our neighbour,* without including in the idea of it the *duty which we owe to God.*

Many ſuch ſort of contentions as theſe are, traced to their original, will be found to be mere *logomachies,* or ſtrifes and quarrels about *names* and *words,* and *vain janglings,* as the apoſtle calls them in his firſt letter of advice to *Timothy.*

In

In order therefore to attain *clear and diſtinct ideas* of what we read and hear, we muſt ſearch the *ſenſe of words;* we muſt conſider what is their original and derivation in our own or foreign languages; what is their common ſenſe among mankind, or in other authors, eſpecially ſuch as wrote in the ſame country, in the ſame age, about the ſame time, and upon the ſame ſubjects: We muſt conſider in what ſenſe the ſame author uſes any particular *word* or *phraſe*, and that when he is diſcourſing on the ſame matter, and eſpecially about the ſame parts or paragraphs of his writing: We muſt conſider whether the word be uſed in a ſtrict or limited, or in a large and general ſenſe; whether in a literal, in a figurative, or in a prophetic ſenſe; whether it has any ſecondary idea annexed to it, beſides the primary or chief ſenſe. We muſt inquire farther what is the ſcope and deſign of the writer; and what is the connection of that ſentence with thoſe that go before it, and thoſe which follow it. By theſe and other methods we are to ſearch out the *definition of names*, that is the true ſenſe and meaning in which any author or ſpeaker uſes any word, which may be the chief ſubject of dicourſe, or may carry any conſiderable importance in it.

Direct. V. *When we communicate our notions to others, merely with a deſign to inform and improve their knowledge, let us in the beginning of our diſcourſe take care to adjuſt the definition of names whereſoever there is need of it;* that is, to determine plainly what we mean by the chief words which are the ſubject of our diſcourſe, and be ſure always to keep the ſame ideas, whenſoever we uſe the ſame words, unleſs we give due notice of the change. This will have a very large aud happy influence, in ſecuring not only others but ourſelves too from confuſion and miſtake; for even writers and ſpeakers themſelves, for want of due watchfulneſs, are ready to affix *different*

ferent ideas to their own words, in different parts of their diſcourſes, and hereby bring perplexity into their own reaſonings, and confound their hearers.

It is by an obſervation of this rule that *mathematicians* have ſo happily ſecured themſelves, and the *ſciences* which they have profeſſed, from wrangling and controverſy; becauſe whenſoever, in the progreſs of their treatiſes, they have occaſion to uſe a new and unknown word, they always *define* it, and tell in what ſenſe they ſhall take it; and in many of their writings you find a heap of *definitions* at the very beginning. Now, if the writers of *natural philoſophy* and *morality* had uſed the ſame accuracy and care, they had effectually ſecluded a multitude of noiſy and fruitleſs debates out of their ſeveral provinces: Nor had that ſacred theme of *divinity* been perplexed with ſo many intricate diſputes, nor the church of *Chriſt* been torn to pieces by ſo many ſects and factions, if the words *grace*, *faith*, *righteouſneſs*, *repentance*, *juſtification*, *worſhip*, *church*, *biſhop*, *preſbyter*, &c. had been well defined, and their ſignifications adjuſted, as near as poſſible, by the uſe of thoſe words in the New Teſtament; or at leaſt, if every writer had told us at firſt in what ſenſe he would uſe thoſe words.

Direct. VI. *In your own ſtudies, as well as in the communication of your thoughts to others merely for their information, avoid ambiguous and equivocal terms as much as poſſible.* Do not uſe ſuch words as have two or three *definitions of the name* belonging to them, that is, ſuch words as have two or three ſenſes, where there is any danger of miſtake. Where your chief buſineſs is to inform the judgment, and to explain a matter rather than to perſuade or affect, be not fond of expreſſing yourſelves in *figurative* language, when there are any proper words that ſignify the ſame idea in their *literal* ſenſe. It is the *ambiguity of names*,

names, as we have often ſaid, that brings almoſt infinite confuſion into our *conceptions of things*.

But where there is a neceſſity of uſing an ambiguous word, there let double care be uſed in defining that word, and declaring in what ſenſe you take it. And be ſure to ſuffer no ambiguous word ever to come into your definitions.

Direct. VII. *In communicating your notions, uſe every word as near as poſſible in the ſame ſenſe in which mankind commonly uſe it, or which writers that have gone before you have uſually affixed to it, upon condition that it is free from ambiguity.* Though names are in their original merely arbitrary, yet we ſhould always keep to the eſtabliſhed meaning of them, unleſs great neceſſity requires the alteration; for, when any word has been uſed to ſignify an idea, that old idea will recur in the mind when the word is heard or read, rather than any new idea which we may faſten to it. And this is one reaſon why the *received definition of names* ſhould be changed as little as poſſible.

But I add farther, that, though a word intirely new introduced into a language may be affixed to what idea you pleaſe, yet an old word ought never to be fixed to an unaccuſtomed idea, without juſt and evident neceſſity, or without preſent or previous notice, leſt we introduce thereby a licence for all manner of pernicious *equivocations* and *falſhoods*; as for inſtance, when an idle boy, who has not ſeen his book all the morning, ſhall tell his maſter that *he has learned his leſſon*, he can never excuſe himſelf by ſaying, that by the word *leſſon* he meant his *breakfaſt*, and by the word *learnt* he meant *eating*; ſurely this would be conſtrued a downright lie, and his fancied wit would hardly procure him a pardon.

In uſing an ambiguous word, which has been uſed in different ſenſes, we may chooſe what we think the moſt proper ſenſe, as I have done, *p.* 79. in naming the *poles of the loadſtone*, north *or* ſouth.

And

And, when a word has been uſed in two or three ſenſes, and has made a great inroad for error upon that account, it is of good ſervice to drop one or two of thoſe ſenſes, and leave it only one remaining, and affix the other ſenſes or ideas to other words. So the modern philoſophers, when they treat of the *human ſoul*, they call it the *mind*, or *mens humana*, and leave the word *anima*, or *ſoul*, to ſignify the *principle of life and motion in mere animal beings.*

The poet *Juvenal* has long ago given us a hint of this accuracy and diſtinction, when he ſays of *brutes* and *men*,

Indulſit mundi communis conditor illis
Tantam animas; *nobis* animum *quoque.*
Sat. ix. *v.* 134.

Exception. There is one caſe, wherein ſome of theſe laſt rules concerning *the definition of words* may be in ſome meaſure diſpenſed with; and that is, when ſtrong and rooted prejudice hath eſtabliſhed ſome favourite word or phraſe, and long uſed it to expreſs ſome miſtaken notion, or to unite ſome inconſiſtent ideas; for then it is ſometimes much eaſier to lead the world into truth, by indulging their fondneſs for a phraſe, and by aſſigning and applying new ideas and notions to their favourite word; and this is much ſafer alſo than to awaken all their paſſions by rejecting both their old words, and phraſes, and notions, and introducing all new at once: Therefore we continue to ſay, *there is heat in the fire*, *there is coldneſs in ice*, rather than invent new words to expreſs the powers which are in *fire* or *ice*, to excite the ſenſations of *heat* or *cold* in us. For the ſame reaſon, ſome words, and phraſes, which are leſs proper, may be continued in *theology*, while people are led into clearer ideas with much more eaſe and ſucceſs, than if an attempt was made to change all their beloved forms of ſpeech.

In other caſes, theſe *logical directions* ſhould generally

nerally be obſerved, and different names affixed to different ideas.

Here I cannot but take occaſion to remark, that it is a conſiderable advantage to any language to have a *variety of new words* introduced into it, that when, in courſe of time, *new objects* and *new ideas* ariſe, there may be *new words* and names aſſigned to them: And alſo, where one ſingle name has ſuſtained two or three ideas in time paſt, theſe new words may remove the ambiguity by being affixed to ſome of thoſe ideas. This practice would, by degrees, take away part of the uncertainty of language. And for this reaſon I cannot but congratulate our Engliſh tongue, that it has been abundantly enriched with the tranſlation of words from all our neighbour nations, as well as from ancient languages, and theſe words have been as it were infranchiſed amongſt us; for French, Latin, Greek, and German names, will ſignify Engliſh ideas, as well as words that are anciently and intirely Engliſh.

It may not be amiſs to mention in this place, that, as the determination of the particular ſenſe in which any word is uſed is called the *definition of the name*, ſo the enumeration of the various ſenſes of an equivocal word is ſometimes called the *diviſion* or *diſtinction* of the name; and for this purpoſe good dictionaries are of excellent uſe.

This *diſtinction* of the *name* or *word* is greatly neceſſary in argumentation or diſpute; when a fallacious argument is uſed, he that anſwers it diſtinguiſhes the ſeveral ſenſes of ſome word or phraſe in it, and ſhews in what ſenſe it is *true*, and in what ſenſe it is evidently *falſe*.

SECT.

SECT. IV.

Of the Definition of Things.

AS there is much confuſion introduced into our ideas, by the means of thoſe *words* to which they are affixed, ſo the *mingling our ideas* with each other without caution, is a farther occaſion whereby they become confuſed. A *court lady*, born and bred up amongſt *pomp* and *equipage*, and the vain notions of *birth* and *quality*, conſtantly joins and mixes all theſe with the idea of herſelf, and ſhe imagines theſe to be *eſſential to her nature*, and as it were, *neceſſary to her being*; thence ſhe is tempted to look upon *menial ſervants*, and the loweſt rank of mankind, *as another ſpecies of beings*, quite diſtinct from herſelf. A *plow-boy*, that has never travelled beyond his own village, and has ſeen nothing but *thatched houſes* and his *pariſh church*, is naturally led to imagine that *thatch* belongs to the very nature of a *houſe*, and that that muſt be a *church* which is built of *ſtone*, and eſpecially if it has a *ſpire* upon it. A *child* whoſe *uncle* has been exceſſive fond, and his *ſchoolmaſter* very ſevere, eaſily believes that *fondneſs* always belongs to *uncles*, and that ſeverity is eſſential to *maſters* or *inſtructors*. He has ſeen alſo *ſoldiers* with *red coats*, or *miniſters* with *long black gowns*, and therefore he perſuades himſelf that theſe garbs are eſſential to thoſe characters, and that he is not a *miniſter* who has not *a long black gown*, nor can he be a *ſoldier* who is not dreſſed in *red*. It would be well if all ſuch miſtakes ended with childhood.

It might be alſo ſubjoined, that our complex ideas become confuſed, not only by *uniting* or *blending together more ſimple or ſingle ideas* than really belong to them, as in the inſtances juſt mentioned; but obſcurity and confuſion ſometimes come upon our ideas alſo, *for want of uniting a ſufficient number of ſingle*

gle ideas to make the complex one: So if I conceive of a *leopard* only as a *ſpotted beaſt*, this does not diſtinguiſh it from a *tyger* or a *lynx*, nor from many *dogs* or *horſes*, which are ſpotted too; and therefore a *leopard* muſt have ſome more ideas added to complete and diſtinguiſh it.

I grant that it is a large and free acquaintance with the world, a watchful obſervation and diligent ſearch into the nature of things, that muſt fully correct this kind of errors: The *rules of logic* are not ſufficient to do it: But yet the *rules of logic* may inſtruct us by what means to diſtinguiſh one thing from another, and how to ſearch and mark out, as far as may be, the contents and limits of the nature of diſtinct beings, and thus may give us great aſſiſtance towards the remedy of theſe miſtakes.

As the *definition of names* frees us from that confuſion which *words* introduce, ſo the *definition of things* will in ſome meaſure guard us againſt that confuſion which *mingled ideas* have introduced: For, as a *definition of the name* explains what any word means, ſo a *definition of the thing* explains what is the nature of that thing.

In order to form a *definition* of any thing, we muſt put forth theſe three acts of the mind.

Firſt, compare the thing to be defined with other things that are moſt like to itſelf, and ſee wherein its eſſence or nature agrees with them; and this is called the *general nature* or *genus* in a definition: So if you would define what *wine* is, firſt compare it with other things like itſelf, as *cyder*, *perry*, &c. and you will find it agrees eſſentially with them in this, that it is a *ſort of juice*.

Secondly, Conſider the moſt remarkable and primary attribute, property, or idea wherein this thing differs from thoſe other things that are moſt like it; and that is its *eſſential* or *ſpecific difference*: So *wine* differs from *cyder* and *perry*, and all other *juices*, in that it is *preſſed from a grape*. This may be called its

ſpecial

ſpecial nature, which diſtinguiſhes it from other *juices*.

Thirdly, Join the general and ſpecial nature together, or (which is all one) the *genus* and the *difference*, and theſe make up a *definition*. So the *juice of a grape*, or *juice preſſed from grapes*, is the *definition of wine*.

So, if I would define what *winter* is, I conſider firſt wherein it agrees with other things which are moſt like it, namely, *ſummer*, *ſpring*, *autumn*, and I find they are all *ſeaſons of the year*; therefore a *ſeaſon of the year is the genus*. Then I obſerve wherein it differs from theſe, and that is in the *ſhortneſs of the days*; for it is this which does primarily diſtinguiſh it from other *ſeaſons*; therefore this may be called its *ſpecial nature*, or its *difference*. Then, by joining theſe together, I make a *definition*. *Winter is that ſeaſon of the year wherein the days are ſhorteſt*. I confeſs indeed this is but a ruder definition of it, for to define it as an accurate aſtronomer, I muſt limit the days, hours, and minutes.

After the ſame manner, if we would explain or define what the *picture of man is*, we conſider firſt the *genus*, or *general nature* of it, which is a *repreſentation*; and herein it agrees with many other things, as a *ſtatue*, a *ſhadow*, a *print*, a *verbal deſcription* of a man, *&c.* Then we conſider wherein it differs from theſe, and we find it differs from a verbal deſcription, in that it is a repreſentation to the eye and not to the ear: It differs from a *ſtatue*, in that it is a repreſentation upon a flat ſurface, and not in a ſolid figure: It differs from a *ſhadow*, in that it is an abiding repreſentation, and not a fleeting one: It differs from a *print* or *draught*, becauſe it repreſents the colours by paint, as well as the ſhape of the object by delineation. Now, ſo many, or rather ſo few of theſe ideas put together, as are juſt ſufficient to diſtinguiſh *a picture* from all other repreſentations, make up its eſſential difference, or its

ſpecial

ſpecial nature; and all theſe are included in its *being painted on a plain ſurface.* Then join this to the *genus*, which is a *repreſentation*; and thus you have the complete *definition* of the *picture* of a *man*, namely, it is *the repreſentation of a man in paint upon a ſurface* (*or a plane*).

Here it muſt be obſerved, that when we ſpeak of the *genus* and *difference* as compoſing a *definition*, it muſt always be underſtood that the *neareſt genus*, and the *ſpecific difference*, are required.

The next *general nature*, or the *neareſt genus*, muſt be uſed in a definition, becauſe it includes all the reſt as parts of its complex idea; as if I would define *wine*, I muſt ſay, *wine is a juice*, which is the neareſt genus; and not ſay, *wine is a liquid*, which is a remote general nature; or, *wine is a ſubſtance*, which is yet more remote; for *juice* includes both *ſubſtance* and *liquid*. Beſides, neither of theſe two remote general natures would make any diſtinction between *wine*, and a thouſand other *ſubſtances*, or other *liquids*, a *remote genus* leaves the thing too much undiſtinguiſhed.

The *ſpecific difference* is that primary attribute which diſtinguiſhes each ſpecies from one another, while they ſtand ranked under the ſame general nature or genus. Though *wine* differs from other liquids, in that it is the *juice of a certain fruit*, yet this is but a *general* or *generic difference*, for it does not diſtinguiſh *wine* from *cyder* or *perry*; the *ſpecific difference of wine* therefore is its *preſſure from the grape*; as *cyder* is preſſed from *apples*, and *perry* from *pears*.

In definitions alſo, we muſt uſe the *primary attribute* that diſtinguiſhes the *ſpecies* or ſpecial nature, and not attempt to define *wine* by its peculiar taſtes, or effects, or other properties, which are but *ſecondary* or *conſequential*, when its *preſſure from the grape* is the moſt obvious and primary diſtinction of it from all other juices. I confeſs in ſome caſes it is not ſo eaſily known which is the primary idea that diſtinguiſhes

guiſhes one thing from another; and therefore ſome would as ſoon define *winter* by the *coldneſs of the ſeaſon*, as by the *ſhortneſs of the days*; though the *ſhortneſs of the days* is doubtleſs the moſt juſt, primary, and philoſophical difference betwixt that and the other ſeaſons of the year, ſince winter days are always *ſhorteſt*, but not always the *coldeſt*; I add alſo, that the *ſhortneſs of the days* is one cauſe of the *coldneſs*, but the *cold* is no cauſe of their *ſhortneſs*.

SECT. V.

Rules of Definition of the Thing.

THE *ſpecial rules of a good definition* are the following:

Rule I. *A definition muſt be univerſal*, or, as ſome call it, *adequate*; that is, it muſt agree to all the particular ſpecies or individuals that are included under the ſame idea; ſo the *juice of a grape* agrees to all proper *wines*, whether *red*, *white*, *French*, *Spaniſh*, *Florence*, &c.

Rule II. *It muſt be proper and peculiar to the thing defined, and agree to that alone*; for it is the very deſign of a definition effectually to diſtinguiſh one thing from all others: So the *juice of a grape* agrees to no other ſubſtance, to no other liquid, to no other being but *wine*.

Theſe two *rules* being obſerved, will always render a definition *reciprocal with the thing defined*; which is a ſcholaſtic way of ſpeaking, to ſignify that the definition may be uſed in any ſentence in the place of the thing defined, or they may be mutually affirmed concerning each other, or ſubſtituted in the room of each other. *The juice of the grape is wine*, or *wine is the juice of the grape*. And whereſoever the word *wine* is uſed, you may put the *juice of the grape* inſtead of it, except when you conſider

conſider *wine* rather as a *word* than a thing, or when it is mentioned in ſuch *logical rules*.

Rule III. *A definition ought to be clear and plain;* for the deſign of it is to lead us into the knowledge of the thing defined.

Hence it will follow, that the words uſed in a definition ought not to be *doubtful*, or *equivocal* and *obſcure*, but as plain and eaſy as the language will afford: And indeed it is a general rule concerning the definition both of *names* and *things*, that no word ſhould be uſed in either of them which has any darkneſs or difficulty in it, unleſs it has been before explained or defined.

Hence it will follow alſo, that there are many things which cannot well be defined, either as to the *name* or the *thing*, unleſs it be by ſynonymous words, or by a negation of the contrary idea, *&c.* for learned men know not how to make them more evident, or more intelligible, than the ideas which every man has gained by the vulgar methods of teaching. Such are the ideas of *extenſion*, *duration*, *thought*, *conſciouſneſs*, and moſt of our *ſimple* ideas, and particularly *ſenſible* qualities, as *white*, *blue*, *red*, *cold*, *heat*, *ſhrill*, *bitter ſour*, &c.

We can ſay of *duration*, that it is a *continuance in being*, or a *not ceaſing to be*; we can ſay of *conſciouſneſs*, that it is *as it were a feeling within ourſelves*; we may ſay, *heat* is that which is *not cold*; or *ſour* is that which is *like vinegar*; or we may point to the clear ſky, and ſay, that is *blue*. Theſe are vulgar methods of teaching the *definitions of names*, or meaning of words. But there are ſome philoſophers, whoſe attempts to define theſe things learnedly have wrapt up their ideas in greater darkneſs, and expoſed themſelves to ridicule and contempt; as when they define *heat*, they ſay, it is *Qualitas congregans homogenea, & ſegregans heterogenea*; that is, a quality gathering together things of the ſame

kind, and ſeparating things of a different kind. So they define *white, a colour ariſing from the prevalence of brightneſs:* But every child knows *hot* and *white* better without theſe definitions.

There are many other definitions given by the Peripatetic philoſophers, which are very faulty, by reaſon of their *obſcurity;* as *motion* is defined by them *the act of a being in power, ſo far forth as it is in power. Time is the meaſure or number of motion according to paſt, preſent, and future.* The *ſoul* is the *act of an organical natural body, having life in power;* and ſeveral others of the ſame ſtamp.

Rule IV. It is alſo commonly preſcribed amongſt the rules of definition, *that it ſhould be ſhort,* ſo that it *muſt have no tautology in it, nor any words ſuperfluous.* I confeſs definitions ought to be expreſſed in as few words as is conſiſtent with a clear and juſt explication of the nature of the thing defined, and a diſtinction of it from all other things beſide: But it is of much more importance, and far better, that a definition ſhould explain *clearly* the ſubject we treat of, though the words be *many,* than to leave obſcurities in the ſentence by confining it within too narrow limits. So in the definition which we have given of *logic,* that it is the *art of uſing reaſon well in the ſearch after truth, and the communication of it to others,* it has indeed many words in it, but it could not be well ſhorter. *Art* is the *genus* wherein it agrees with *rhetoric, poeſy, arithmetic, wreſtling, ſailing, building,* &c. for all theſe are *arts* alſo: But the difference or ſpecial nature of it is drawn from its object, *reaſon;* from the act *uſing it well,* and from its two great ends or deſigns, namely, the *ſearch after truth,* and the *communication of it;* nor can it be juſtly deſcribed and explained in fewer ideas.

V. If we add a *fifth rule,* it muſt be, that *neither*

the thing defined, nor a mere ſynonymous name, ſhould make a part of the definition, for this would be no explication of *the nature of the thing;* and a ſynonymous word at beſt could only be a *definition of the name.*

SECT. VI.

Obſervations concerning the Definition of Things.

BEFORE I part with this ſubject, I muſt propoſe ſeveral *obſervations* which relate to the definition of things.

1*ſt Obſervat.* There is no need that, in *definitions,* we ſhould be confined to *one ſingle attribute or property,* in order to expreſs the difference of the thing defined, for ſometimes the *eſſential* difference conſiſts in *two* or *three* ideas or attributes. So a *grocer* is a *man who buys and ſells ſugar, and plumbs, and ſpices for gain.* A *clock* is an *engine with weights and wheels, that ſhows the hour of the day both by pointing and ſtriking:* And if I were to define a *repeating clock,* I muſt add another property, namely, that it alſo *repeats the hour.* So that the true and primary eſſential difference of ſome complex ideas conſiſting in ſeveral diſtinct properties, cannot be well expreſſed without conjunctive particles of ſpeech.

2*d Obſervat.* There is no need that *definitions* ſhould always be *poſitive,* for ſome things differ from others merely by a defect of what others have; as, if a *chair* be defined *a ſeat for a ſingle perſon with a back belonging to it,* then a *ſtool* is a *ſeat for a ſingle perſon without a back;* and a *form* is a *ſeat for ſeveral perſons without a back:* Theſe are *negative* differences. So *ſin is want of conformity to the law of God; blindneſs is a want of ſight;* a *vagabond* is a *perſon without a home.* Some ideas are *negative,* and their definitions ought to be ſo too.

3*d Obſervat.* Some things may have two or more *definitions*, and each of them equally juſt and good; as a *mile* is the *length of eight furlongs*, or it is the *third part of a league*. *Eternal* is *that which ever was, and ever ſhall be*; or it is *that which had no beginning, and ſhall have no end*. *Man* * is uſually defined a *rational animal*: But it may be much better to define him a *ſpirit united to an animal of ſuch a ſhape*, or an *animal of ſuch a peculiar ſhape united to a ſpirit*, or a *being compoſed of ſuch an animal and a mind*.

4*th Obſervat.* Where the *eſſences* of things are evident, and clearly diſtinct from each other, there we may be more accurate and exact in the *definitions* of them: But, where their *eſſences* approach near to each other, the *definition* is more difficult. A *bird* may be defined a *feathered animal with wings*, a *ſhip* may be defined a *large hollow building made to paſs over the ſea with ſails*: But, if you aſk me to define a *bat*, which is betwen a *bird* and a *beaſt*, or to define a *barge* and *hoy*, which are between a *boat* and a *ſhip*, it is much harder to define them, or to adjuſt the bounds of their eſſence. This is very evident in all *monſtrous births*, and *irregular productions of nature*, as well as in many *works of art*, which partake ſo much of *one ſpecies*, and ſo much of *another*, that we cannot tell under which *ſpecies* to rank them, or how to determine their *ſpecific difference*.

The ſeveral *ſpecies* of beings are ſeldom preciſely limited in the nature of things by an uncertain and unalterable

* The common definition of man, namely, a *rational animal*, is very faulty. 1. Becauſe the *animal* is not *rational*; the rationality of man ariſes from the mind to which the animal is united. 2. Becauſe if a ſpirit ſhould be united to a *horſe*, and and make it a rational being, ſurely this would not be a *man*: It is evident therefore that the *peculiar ſhape* muſt enter into the definition of a *man* to render it juſt and perfect; and, for want of a full deſcription thereof, all our definitions are defective.

unalterable bounds: The eſſences of many things do not conſiſt *in indiviſibili*, or in one evident indiviſible point, as ſome have imagined; but by various degrees they approach nearer to, or differ more from, others that are of a kindred nature. So (as I have hinted before) in the very middle of each of the arches of a rainbow, the colours of *green*, *yellow*, and *red*, are ſufficiently diſtinguiſhed; but near the borders of the ſeveral arches they run into one another, ſo that you hardly know how to limit the colours, nor whether to call it *red* or *yellow*, *green* or *blue*.

5*th Obſervat.* As the *higheſt* or chief *genuſes*, namely, *being* and *not being*, can never be defined, becauſe there is no *genus* ſuperior to them; ſo neither can *ſingular ideas* or *individuals* be well defined, becauſe either they have no *eſſential differences* from other individuals, or their differences are not known; and therefore *individuals* are only to be deſcribed by their particular circumſtances: So King *George* is diſtinguiſhed from all other men and other kings, by deſcribing him as *the firſt king of Great Britain of the houſe of Brunſwick*; and *Weſtminſter Hall* is deſcribed by its ſituation and its uſe, &c.

That individual bodies can hardly have any eſſential difference, at leaſt within the reach of our knowledge, may be made thus to appear: *Methuſelah*, when he was nine hundred and ſixty years *old*, and perhaps worn out with age and weakneſs, was the ſame perſon as when he was in his full vigour of *manhood*, or when he was an *infant*, newly born; but how far was his body the ſame? Who can tell whether there was any fibre of his fleſh or his bones that continued the ſame throughout his whole life? Or who can determine which were thoſe fibres? The *ſhip* in which Sir *Francis Drake* ſailed round the world might be new built, and refitted ſo often, that few of the ſame timbers remained; and who can ſay whether it muſt be call-

ed the ſame ſhip or no? And what is its eſſential difference? How ſhall we define Sir *Francis Drake*'s ſhip, or make a definition for *Methuſelah?*

To this head belongs that moſt difficult queſtion, *What is the principle of individuation?* Or what is it that makes any one thing *the ſame* as it was ſome time before? This is two large and laborious an inquiry to dwell upon in this place: Yet I cannot forbear to mention this hint, namely, Since our own bodies muſt riſe at the laſt day for us to receive rewards or puniſhments in them, there may be perhaps ſome *original fibres* of each human body, ſome *ſtamina vitæ*, or primeval *ſeed of life*, which may remain unchanged through all the ſtages of life, death, and the grave; theſe may become the ſprings and principles of a reſurrection, and ſufficient to denominate it that *ſame body*. But, if there be any ſuch conſtant and vital atoms which diſtinguiſh every human body, they are known to God only.

6th Obſervat. Where we cannot find out the *eſſence* or *eſſential difference* of any *ſpecies* or *kind* of beings that we would define, we muſt content ourſelves with a collection of ſuch *chief parts* or *properties* of it as may beſt explain it, ſo far as it is known, and beſt diſtinguiſh it from other things: So a *marigold* is a *flower which hath many long yellow leaves, round a little knot of ſeeds in the midſt, with ſuch a peculiar ſtalk*, &c. So if we would define *ſilver*, we ſay it is a *white and hard metal, next in weight to gold*: If we would define an *elder-tree*, we might ſay it is *one among the leſſer trees, whoſe younger branches are ſoft and full of pith, whoſe leaves are jagged or indented, and of ſuch a particular ſhape, and it bears large cluſters of ſmall black berries*: So we muſt define *water*, *earth*, *ſtone*, a *lion*, an *eagle*, a *ſerpent*, and the greateſt part of *natural* beings, by a collection of thoſe properties, which according to our obſervation diſtinguiſh them from all other things. This is what

Mr

Mr *Locke* calls *nominal eſſences*, and *nominal definitions*. And indeed, ſince the *eſſential differences* of the various natural beings or bodies round about us ariſe from a peculiar ſhape, ſize, motion, and ſituation of the ſmall particles of which they are compoſed, and ſince we have no ſufficient method to inform us what theſe are, we muſt be contented with ſuch a *ſort of* definition of the bodies they compoſe.

Here *note*, That this ſort of definition, which is made up of a mere collection of the moſt remarkable parts or properties, is called an *imperfect definition*, or a *deſcription*; whereas the *definition* is called *perfect* when it is compoſed of the eſſential *difference*, added to the general nature or *genus*.

7th Obſervat. The *perfect definition of any being* always includes the *definition of the name* whereby it is called, for it informs us of the ſenſe or meaning of that word, and ſhews us what idea that word is affixed to: But the *definition of the name* does by no means include a *perfect definition of the thing*; for, as we have ſaid before, a mere ſynonymous word, a negation of the contrary, or the mention of any one or two diſtinguiſhing properties of the thing, may be a ſufficient *definition of the name*. Yet in thoſe caſes where the eſſential difference or eſſence of a thing is unknown, there a *definition of the name*, by the chief properties, and a *deſcription of the thing*, are much the ſame.

And here I think it neceſſary to take notice of one general ſentiment, that ſeems to run through that excellent performance, Mr *Locke's Eſſay on human Underſtanding*, and that is, "That the *eſſences* "*of things* are utterly unknown to us, and there- "fore all our pretences to diſtinguiſh the eſſences "of things can reach no farther than *mere nomi-* "*nal eſſences*; or a collection of ſuch properties as "we know; to ſome of which we affix particular "names, and others we bundle up, ſeveral toge-

" ther, under one name: And that all our at-
" tempts to rank beings into different kinds of
" ſpecies can reach no farther than to make *mere*
" *nominal ſpecies;* and therefore our definitions of
" things are but *mere nominal deſcriptions* or defini-
" tions of the name."

Now, that we may do juſtice to that great author, we ought to conſider that he confines this ſort of diſcourſe only to the *eſſence of ſimple ideas*, and to the *eſſence of ſubſtances*, as appears evident in the fourth and ſixth chapters of his third book; for he allows the *names of mixed modes always to ſignify the real eſſences of their ſpecies*, Chap V. and he acknowledges *artificial things to have real diſtinct ſpecies;* and that, in the diſtinction of their eſſences, *there is generally leſs confuſion and uncertainty than in natural*, Chap VI. ſect. 40, 41. though it muſt be confeſſed that he ſcarce makes any diſtinction between the *definition of the name* and the *definition of the thing*, as chap. IV. and ſometimes the current of his diſcourſe decries the *knowledge of eſſences* in ſuch general terms as may juſtly give occaſion to miſtake.

It muſt be granted, that the *eſſence* of moſt of our *ſimple ideas*, and the greateſt part of particular *natural ſubſtances*, are much unknown to us; and therefore the eſſential difference of different qualities, and of the various kinds of bodies, (as I have ſaid before), lie beyond the reach of our underſtandings: We know not what makes the primary real inward diſtinctions betwen *red*, *green*, *ſweet*, *ſour*, &c. between *wood*, *iron*, *oil*, *ſtone*, *fire*, *water*, *fleſh*, *clay*, in their general natures; nor do we know what are the inward and prime diſtictions between all the particular kinds or ſpecies in the *vegetable*, *animal*, *mineral*, *metallic*, or *liquid* world of things. See *Philoſophical Eſſays*, Eſſay xi. ſect. 1.

But ſtill there is a very large field for the knowledge of the *eſſences* of things, and for the uſe of *perfect definitions* amongſt our *complex ideas*, the *modal*

appearances

appearances and changes of nature, the *works of art*, the *matters of ſcience*, and all the affairs of the *civil*, the *moral*, and the *religious life*: And indeed it is of much more importance to all mankind, to have a better acquaintance with the *works of art* for their own livelihood and daily uſe, with the *affairs of* morality for their behaviour in this world, and with the *matters of religion*, that they may be prepared for the world to come, than to be able to give a perfect definition of the works of nature.

If the particular eſſences of natural bodies are unknown to us, we may be yet good philoſophers, good artiſts, good neighbours, good ſubjects, and good Chriſtians, without that knowledge; and we have juſt reaſon to be content.

Now that the eſſences of ſome of the *modal appearances* and *changes in nature*, as well as *things of art*, *ſcience*, and *morality*, are ſufficiently known to us to make *perfect definitions* of them, will appear by the ſpecimen of a few definitions of theſe things.

Motion is a change of a place. *Swiftneſs* is the paſſing over a long ſpace in a ſhort time. A *natural day* is the time of one alternate revolution of light and darkneſs, or it is the duration of twenty-four hours. An *eclipſe of the ſun* is a defect in the ſun's tranſmiſſion of light to us by the moon interpoſing. * *Snow* is congealed vapour. * *Hail* is congealed rain. An * *iſland* is a piece of land riſing above the ſurrounding water. An * *hill* is an elevated part of the earth, and a * *grove* is a piece of ground thick ſet with trees. An *houſe* is a build-

* Note, *Iſland*, *hill*, *grove*, are not deſigned here in their more *remote and ſubſtantial natures*, (if I may ſo expreſs it), or as the matter of them is *earth*; for in this ſenſe we know not their eſſence, but only as conſidered in their *modal appearances*, whereby one *part of earth* is diſtinguiſhed from another. The ſame may be ſaid of *ſnow*, *hail*, &c.

ing made to dwell in. A *cottage* is a mean houſe in the country. A *ſupper* is that meal which we make in the evening. A *triangle* is a figure compoſed of three ſides. A *gallon* is a meaſure containing eight pints. A *porter* is a man who carries burdens for hire. A *king* is the chief ruler in a kingdom. *Veracity* is the conformity of our words to our thoughts. *Covetouſneſs* is an exceſſive love of money, or other poſſeſſions. *Killing* is the taking away the life of an animal. *Murder* is the unlawful killing of a man. *Rhetoric* is the art of ſpeaking in a manner fit to perſuade. *Natural philoſophy* is the knowledge of the properties of bodies, and the various effects of them, or it is the knowledge of the various appearances in nature, and their cauſes; and *Logic* is the art of uſing our reaſon well, *&c.*

Thus you ſee the eſſential differences of various beings may be known, and are borrowed from their *qualities* and *properties*, their *cauſes*, *effects*, *objects*, *adjunct*, *ends*, &c.; and indeed, as infinitely various as the *eſſences* of things are, their *definitions* muſt needs have various forms.

After all, it muſt be confeſſed, that many logicians and philoſophers in the former ages have made too great a buſtle about the exactneſs of their definitions of things, and entered into long fruitleſs controverſies, and very ridiculous debates in the ſeveral ſciences, about adjuſting the *logical formalities* of every definition; whereas that ſort of wrangling is now grown very juſtly contemptible, ſince it is agreed that true learning and the knowledge of things depends much more upon a large acquaintance with their various properties, cauſes, effects, ſubject, object, ends and deſigns, than it does upon the formal and ſcholaſtic niceties of *genus* and *difference*.

SECT.

SECT. VII.

Of a Complete Conception of Things.

HAVING dwelt ſo long upon the firſt *rule* to direct our conceptions, and given an account of the *definition* both of *names* and *things*, in order to gain *clear* and *diſtinct ideas*, we make haſte now to the *ſecond rule*, to guide our conceptions, and that is, *Conceive of things completely in all their parts.*

All *parts* have a reference to ſome *whole*: Now there is an old diſtinction which logical writers make of a *whole* and its *parts* into four ſeveral kinds, and it may be proper juſt to mention them here.

1. There is a *metaphyſical whole*, when the eſſence of a thing is ſaid to conſiſt of two *parts*, the *genus* and the *difference*, that is, the general and the ſpecial nature, which being joined together make up a *definition*. This has been the ſubject of the foregoing ſections.

2. There is a *mathematical whole*, which is better called *integral*, when the ſeveral parts which go to make up the whole are really diſtinct from one another, and each of them may ſubſiſt apart. So the *head*, the *limbs*, and the *trunk*, are the integral parts of any large *number*; ſo theſe diſcourſes which I have written concerning *perception*, *judgment*, *reaſoning*, and *diſpoſition*, are the four integral parts of *logic*. This ſort of parts goes to make up the *completeneſs* of any ſubject; and this is the chief and moſt direct matter of our diſcourſe in this ſection.

3. There is a *phyſical or eſſential whole*, which is uſually made to ſignify and include only the two *eſſential parts* of man, *body* and *ſoul*: But I think the ſenſe of it may better be altered, or at leaſt en-

larged, and ſo include all the eſſential modes, attributes, or properties, which are contained in the *comprehenſion* of any idea. This ſhall be the ſubject of diſcourſe under the *third rule to direct our conceptions.*

4. There is a *logical whole*, which is alſo called an *univerſal*; and the *parts* of it are all the *particular ideas* to which this univerſal nature extends. So a *genus is a whole* in reſpect of the ſeveral *ſpecies* which are its parts. So the ſpecies is a *whole*, and all the *individuals* are the *parts* of it. This ſhall be treated of in the *fourth rule to guide our conceptions.*

At preſent we conſider an idea as an *integral whole*, and our *ſecond rule* directs us to contemplate it *in all its parts*: But this can only refer to complex ideas, for ſimple ideas have no parts.

SECT. VIII.

Of Diviſion, and the Rules of it.

SINCE our minds are narrow in their capacity, and cannot ſurvey the ſeveral parts of any complex being, with one ſingle view, as God ſees all things at once; therefore we muſt, as it were, take it to pieces, and conſider of the parts ſeparately, that we may have a more complete conception of the whole. So that, if I would learn the nature of a *watch*, the workman takes it to pieces and ſhews me the *ſpring*, the *wheels*, the *axles*, the *pinions*, the *balance*, the *dial-plate*, the *pointer*, the *caſe*, &c. and deſcribes each of theſe things to me apart, together with their figures and their uſes. If I would know what an *animal* is, the anatomiſt conſiders the *head*, the *trunk*, the *limbs*, the *bowels*, apart from each other, and gives me diſtinct lectures upon each of them. So a *kingdom* is divided into its ſeveral *provinces*; a *book* into its ſeveral *chapters*; and any

ſcience

ſcience is divided according to the ſeveral *ſubjects* of which it treats.

This is what we properly call the *diviſion* of an *idea*, which is an *explication of the whole by its ſeveral parts*, or an *enumeration of the ſeveral parts* that go to compoſe any *whole idea*, and to render it complete. And I think when man is divided into *body* and *ſoul*, it properly comes under this part of the doctrine of integral *diviſion*, as well as when the mere *body* is divided into *head*, *trunk*, and *limbs*; This diviſion is ſometimes called *partition*.

When any of the *parts* of any *idea* are yet farther divided, in order to a clear explication of the *whole*, this is called a *ſubdiviſion*; as when a *year* is divided into *months*, each month into *days*, and each day into *hours*, which may alſo be farther ſubdivided into *minutes* aud *ſeconds*.

It is neceſſary, in order to the full explication of any being, to conſider *each part*, and the *properties of it*, diſtinct *by itſelf*, as well as *in its relation* to the whole: For there are many properties that belong to the ſeveral parts of a being which cannot properly be aſcribed to the whole, though theſe properties may fit each part for its proper ſtation, and as it ſtands in that relation to the whole complex being: As in a *houſe*, the *doors* are moveable, the *rooms* ſquare, the *ceilings* white, the *windows* tranſparent, yet the *houſe* is neither moveable, nor ſquare, nor white, nor tranſparent.

The ſpecial Rules of a good Diviſion are theſe.

I Rule. *Each part ſingly taken muſt contain leſs than the whole, but all the parts taken collectively, (or together, muſt contain neither more nor leſs than the whole.* Therefore, if in diſcourſing of a *tree* you divide it into the *trunk* and *leaves*, it is an imperfect diviſion, becauſe the *root* and the *branches* are needful to make up the whole. So *logic* would be ill divided into

into *apprehenſion*, *judgment*, and *reaſoning*; for *method* is a conſiderable part of the art which teaches us to uſe our reaſon right, and ſhould by no means be omitted.

Upon this account, in every diviſion wherein we deſign a perfect exactneſs, it is neceſſary to examine the whole idea with diligence, leſt we omit any parts of it through want of care; though in ſome caſes it is not poſſible, and in others it is not neceſſary, that we ſhould deſcend to the minuteſt parts.

II. Rule. *In all diviſions we ſhould firſt conſider the larger and more immediate parts of the ſubject, and not divide it at once into the more minute and remote parts.* It would by no means be proper to divide a *kingdom* firſt into *ſtreets*, and *lanes*, and *fields*; but it muſt be firſt divided into *provinces* or *counties*, then thoſe *counties* may be divided into *towns*, *villages*, *fields*, &c. and *towns* into *ſtreets* and *lanes*.

III. Rule. *The ſeveral parts of a diviſion ought to be oppoſite, that is, one part ought not to contain another.* It would be a ridiculous diviſion of an *animal* into *head*, *limbs*, *body*, and *brain*, for the *brains* are contained in the head.

Yet here it muſt be noted, that ſometimes the ſubjects of any treatiſe, or the objects of any particular ſcience, may be properly and neceſſarily ſo divided, that the ſecond may include the firſt, and the third may include the firſt and ſecond, without offending againſt this rule, becauſe in the ſecond or following parts of the ſcience or diſcourſe theſe objects are not conſidered in the ſame manner as in the firſt; as for inſtance, *geometry* divides its objects into *lines*, *ſurfaces*, and *ſolids*: Now, though a *line* be contained in a *ſurface*, or a *ſolid*, yet it is not conſidered in a *ſurface*, ſeparate and alone, or as a *mere line*, as it is in the firſt part of *geometry*, which treats

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of *lines*. So *logic* is rightly divided into *conception*, *judgment*, *reaſoning*, and *method*. For, though *ideas* or *conceptions* are contained in the following parts of *logic*, yet they are not there treated of as *ſeparate ideas*, which are the proper ſubject of the firſt part.

IV Rule. *Let not ſubdiviſions be too numerous without neceſſity:* For it is better many times to diſtinguiſh more parts at once, if the ſubject will bear it, than to mince the diſcourſe by exceſſive dividing and ſubdividing. It is preferable therefore, in a treatiſe of *geography*, to ſay, that in a *city* we will conſider its *walls*, its *gates*, its *buildings*, its *ſtreets*, and *lanes*, than to divide it formally firſt into the *encompaſſing* and the *encompaſſed* parts; the encompaſſing parts are the *walls* and *gates*, the encompaſſed parts include the *ways* and the *buildings*; the ways are the *ſtreets* and the *lanes*; buildings conſiſt of the *foundations* and the *ſuperſtructure*, &c.

Too great a number of ſubdiviſions has been affected by ſome perſons in ſermons, treatiſes, inſtructions, *&c.* under pretence of greater accuracy: But this ſort of ſubtilties hath often cauſed great confuſion to the underſtanding, and ſometimes more difficulty to the memory. In theſe caſes it is only a good judgment can determine what *ſubdiviſions* are uſeful.

V. Rule *Divide every ſubject according to the ſpecial deſign you have in view.* One and the ſame idea or ſubject may be divided in very different manners, according to the different purpoſes we have in diſcourſing of it. So, if a *printer* were to conſider the ſeveral parts of a *book*, he muſt divide it into *ſheets*, the *ſheets* into *pages*, the *pages* into *lines*, and the *lines* into *letters*. But a *grammarian* divides a *book* into *periods*, *ſentences*, and *words*, or parts of ſpeech, as *noun*, *pronoun*, *verb*, &c. A *logician* conſiders a *book* as divided into *chapters*, *ſections*, *arguments*, *propoſitions*, *ideas*,

ideas; and, with the help of *ontology*, he divides the *propoſitions* into *ſubject*, *object*, *property*, *relation*, *action*, *paſſion*, *cauſe*, *effect*, &c. But it would be very ridiculous for a *logician* to divide a *book* into *ſheets*, *pages*, and *lines;* or for a *printer* to divide it into *nouns* and *pronouns*, or into *propoſitions*, *ideas*, *properties*, or *cauſes*.

VI. Rule. *In all your diviſions obſerve with greateſt exactneſs the nature of things.* And here I am conſtrained to make a ſubdiviſion of this rule into two very neceſſary particulars

(1) *Let the parts of your diviſion be ſuch as are properly diſtinguiſhed in nature.* Do not divide aſunder thoſe parts of the idea which are intimately united in nature, nor unite thoſe things into one part which nature has evidently disjoined: Thus, it would be very improper, in treating of an *animal body*, to divide it into the *ſuperior* and *inferior halves;* for it would be hard to ſay how much belongs by nature to the *inferior half*, and how much to the *ſuperior*. Much more improper would it be ſtill to divide the *animal* into the *right hand parts* and *left hand parts*, which would bring greater confuſion. This would be as unnatural as if a man ſhould cleave a *haſel-nut* in halves through the *huſk*, the *ſhell*, and the *kernel*, at once, and ſay, a *nut is divided into theſe two parts;* whereas nature leads plainly to the threefold diſtinction of *huſk*, *ſhell*, and *kernal*.

(2) *Do not affect duplicities, nor triplicities, nor any certain number of parts in your diviſion of things;* for we know of no ſuch certain number of parts which God the Creator has obſerved in forming all the varieties of his creatures; nor is there any uniform determined number of parts in the various ſubjects of human art or ſcience; yet ſome perſons have diſturbed the order of nature, and abuſed their readers, by an affectation of *dichotomies*, *trichotomies*, *ſevens*, *twelves*, &c. Let the nature of the ſubject, conſidered together with the *deſign* which you have

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in view, always determine the *number* of parts into which you divide it.

After all, it muſt be confeſſed, that an intimate knowledge of things, and a judicious obſervation, will aſſiſt in the buſineſs of *diviſion*, as well as of *definition*, better than too nice and curious an attention to the mere formalities of logical writers, without a real acquaintance with things.

SECT. IX.

Of a comprehenſive conception of things, and of abſtraction.

THE *third rule* to direct our conceptions requires us to *conceive of things comprehenſively.* As we muſt ſurvey an object in all its *parts* to obtain a *complete* idea of it, ſo we muſt conſider it in all its *modes*, *attributes*, *properties*, and *relations*, in order to obtain a *comprehenſive* conception of it.

The *comprehenſion* of an idea, as it was explained under the doctrine of univerſals, includes only the *eſſential modes* or *attributes* of that *idea*; but in this place the word is taken in a larger ſenſe, and implies alſo the various *occaſional properties*, *accidental modes*, and *relations*.

The neceſſity of this rule is founded upon the ſame reaſon as the former, namely, That our minds are narrow and ſcanty in their capacities, and as they are not able to conſider all the *parts* of a complex idea *at once*, ſo neither can they *at once* contemplate all the different *attributes* and *circumſtances* of it: We muſt therefore conſider things *ſucceſſively* and *gradually* in their various appearances and circumſtances: As our natural eye cannot at once behold the *ſix ſides of a dye or cube*, nor take cognizance of all the *points* that are marked on them, and therefore we turn up the ſides ſucceſſively, and thus ſurvey and number the points that are marked on *each ſide*, that we may know the whole.

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In order to a *comprehenſive* view of any idea, we muſt firſt conſider, whether the object of it has an *exiſtence* as well as an *eſſence*; whether it be a *ſimple* or *complex idea*; whether it be a *ſubſtance* or a *mode*. If it be a *ſubſtance*, then we muſt inquire what are the *eſſential modes* of it which are neceſſary to its nature, and what are thoſe *properties* or *accidents* of it which belong to it occaſionally, or as it is placed in ſome particular circumſtances: We muſt view it in its *internal* and *abſolute* modes, and obſerve it in thoſe various *external relations* in which it ſtands to other beings: We muſt conſider it in its *powers* and *capacities* either to *do* or *ſuffer*: We muſt trace it up to its various *cauſes*, whether ſupreme or ſubordinate. We muſt deſcend to the variety of its *effects*, and take notice of the ſeveral *ends* and *deſigns*, which are to be attained by it. We muſt conceive of it as it is either an *object or a ſubject*, what are the things that are *akin* to it, and what are the *oppoſites* or *contraries* of it; for many things are to be known both by their *contrary* and their *kindred* ideas.

If the thing we diſcourſe of be a mere *mode*, we muſt inquire whether it belongs to *ſpirits* or *bodies*; whether it be a *phyſical* or *moral* mode: If *moral*, then we muſt conſider its relation to *God*, to our *ſelves*, to our *neighbours*; its reference to *this life*, or the *life to come*. If it be a *virtue*, we muſt ſeek what are the *principles* of it, what are the *rules* of it, what are the *tendencies* of it, and what are the *falſe virtues* that counterfeit it, and what are the *real vices* that oppoſe it, what are the *evils* which attend the *neglect* of it, and what are the *rewards* of the *practice* of it, both *here* and *hereafter*.

If the ſubject be *hiſtorical*, or a *matter of fact*, we may then inquire whether the action was *done at all*; whether it was done *in ſuch a manner*, or by *ſuch perſons* as is reported; at *what time* it was done; in *what place*; by *what motive*, and for *what deſign*; what is the *evidence* of the *fact*; *who are the witneſſes*; what

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is their *character* and *credibility*; what *ſigns* there are of ſuch a fact; what *concurrent circumſtances* which may either ſupport the truth of it, or render it doubtful.

In order to make due inquiries into all theſe, and many other particulars which go towards the *complete* and *comprehenſive* idea of any being, the ſcience of *ontology* is exceeding neceſſary. This is what was wont to be called the *firſt part of metaphyſics* in the *Peripatetic* ſchools. It treats of *being in its moſt general nature, and of all its affections and relations.* I confeſs the old Popiſh ſchoolmen have mingled a number of uſeleſs ſubtilties with this ſcience; they have exhauſted their own ſpirits, and the ſpirits of their readers, in many laborious and intricate trifles; and ſome of their writings have been fruitful of *names without ideas*, which have done much injury to the ſacred ſtudy of divinity. Upon this account many of the moderns have moſt unjuſtly abandoned the whole ſcience at once, and throw abundance of contempt and raillery upon the very name of *metaphyſics*; but this contempt and cenſure is very unreaſonable; for this ſcience, ſeparated from ſome Ariſtotelian fooleries, and ſcholaſtic ſubtilties, is ſo neceſſary to a diſtinct conception, ſolid judgment, and juſt reaſoning on many ſubjects, that ſometimes it is introduced as a *part of logic*, and not without reaſon. And thoſe who utterly deſpiſe and ridicule it, either betray their own ignorance, or will be ſuppoſed to make their wit and banter a refuge and excuſe for their own lazineſs. Yet this much I would add, that the later writers of *ontology* are generally the beſt on this account, becauſe they have left out much of the ancient jargon. See the *Brief Scheme of Ontology* in the *Philoſophical Eſſays*, by *I. Watts*.

Here let it be noted, that it is neither uſeful, neceſſary, or poſſible, to run through *all the modes, circumſtances*, and *relations* of every ſubject we take in hand;

hand; but in *ontology* we enumerate a great variety of them, that ſo a judicious mind may chooſe what are thoſe *circumſtances*, *relations*, and *properties* of any ſubject, which are moſt neceſſary to the preſent deſign of him that ſpeaks or writes, either to explain, to illuſtrate, or to prove the point.

As we arrive at the *complete* knowledge of an idea in all its *parts*, by that act of the mind which is called *diviſion*, ſo we come to a *comprehenſive* conception of a thing in its ſeveral *properties* and *relations*, by that act of the mind which is called *abſtraction*; that is, we conſider each ſingle relation or property of the ſubject alone; and thus we do as it were withdraw and ſeparate it in our minds, both from the ſubject itſelf, as well as from other properties and relations, in order to make a fuller obſervation of it.

This act of *abſtraction* is ſaid to be twofold, either *preciſive* or *negative*.

Preciſive abſtraction is when we conſider thoſe things apart which cannot really exiſt apart; as when we conſider a *mode* without conſidering its *ſubſtance* and *ſubject*, or one *eſſential mode* without *another*. *Negative abſtraction* is, when we conſider one thing ſeparate from another, which may alſo exiſt without it; as when we conceive of a *ſubject* without conceiving of its *accidental modes* or *relations*; or when we conceive of *one accident* without thinking of *another*. If I think of *reading* or *writing* without the expreſs idea of ſome *man*, this is *preciſive abſtraction*; or if I think of the *attraction of iron*, without the expreſs idea of ſome particular magnetic body. But, when I think of a *needle* without an idea of its *ſharpneſs*, this is *negative abſtraction*; and it is the ſame when I think of its *ſharpneſs* without conſidering its *length*.

SECT.

SECT. X.

Of the extensive Conception of Things, and of Distribution.

AS the *completeness* of an idea refers to the several *parts* that compose it, and the *comprehension* of an idea includes its various *properties*; so the *extension* of an idea denotes the various *sorts* or *kinds* of *beings* to which the same idea belongs: And if we would be fully acquainted with a subject, we must observe

This *fourth rule* to direct our conceptions, namely, *Conceive of things in all their extension*; that is, we must search out the various *species*, or *special natures* which are contained under it, as a *genus* or *general nature*. If we would know the nature of an an *animal* perfectly, we must take cognizance of *beasts*, *birds*, *fishes*, and *insects*, as well as *men*, all which are contained under the general nature and name of *animal*.

As an *integral whole* is distinguished into its several parts by *division*; so the word *distribution* is most properly used when we distinguish an *universal whole* into its several kinds or species: And perhaps it had been better if this word had been always confined to this signification, though it must be confessed that we frequently speak of the *division* of an idea into its several kinds, as well as into its several parts.

The rules of *a* good *distribution* are much the same with those which we have before applied to *division*, which may be just repeated again in the briefest manner, in order to give examples of them.

Rule I. Each part *singly* taken must contain less than the whole, but all the parts taken *collectively*, or *together*, must contain neither more nor less than the whole; or, as *logicians* sometimes express it, the *parts of the division ought to exhaust the whole thing which is divided*. So *medicine* is justly distributed into *prophylactic*, or the art of preserving health; and *therapeutic*,

rapeutic, or the art of reſtoring health; for there is no other ſort of medicine beſides theſe two. But *men* are not well diſtributed into *tall* or *ſhort*, for there are ſome of a *middle ſtature*.

Rule II. In all *diſtributions* we ſhould firſt conſider the larger and more immediate kinds or ſpecies, or ranks of being, and not divide a thing at once into the more minute and remote. A *genus* ſhould not at once be divided into *individuals*, or even into the *loweſt ſpecies*, if there be a *ſpecies ſuperior*. Thus it would be very improper to divide *animal* into *trout*, *lobſter*, *eel*, *dog*, *bear*, *eagle*, *dove*, *worm*, *and butterfly*, for theſe are inferior kinds; whereas *animal* ought firſt to be diſtributed into *man*, *beaſt*, *bird*, *fiſh*, *inſect*; and then *beaſt* ſhould be diſtributed into *dog*, *bear*, &c. *Bird* into *eagle*, *dove*, &c. *Fiſh* into *trout*, *eel*, *lobſter*, &c.

It is irregular alſo to join any inferior ſpecies in the ſame rank or order with the ſuperior; as, if we ſhould diſtinguiſh *animals* into *birds*, *bears*, and *oyſters*, &c. it would be a ridiculous diſtribution.

Rule III. The ſeveral parts of a diſtribution ought to be oppoſite; that is, one ſpecies or claſs of beings in the ſame rank of diviſion, ought not to contain or include another; ſo *men* ought not to be divided into the *rich*, the *poor*, the *learned*, and the *tall*; for *poor men* may be both *learned* and *tall*, and ſo may the *rich*.

But it will be objected, Are not *animated bodies* rightly diſtributed into *vegetative* and *animal*, or (as they are uſually called) *ſenſitive?* Now the *ſenſitive* contains the *vegetative* nature in it, for *animals* grow as well as plants. I anſwer, that in this, and in all ſuch diſtributions, the word *vegetative* ſignifies *merely vegetative*; and in this ſenſe *vegetative* will be ſufficiently oppoſite to *animal*; for it cannot be ſaid of an *animal* that it contains *mere vegetation* in the idea of it.

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Rule IV. Let not ſubdiviſions be too numerous without neceſſity; therefore I think *quantity* is better diſtinguiſhed at once into a *line*, a *ſurface*, and a *ſolid*; than to ſay, as *Ramus* does, that *quantity is either a line or a thing lined*; and a *thing lined is either a ſurface or a ſolid*.

Rule V. Diſtribute every ſubject according to the ſpecial deſign you have in view, ſo far as is neceſſary or uſeful to your preſent inquiry. Thus a *politician* diſtributes mankind according to their civil characters into the *rulers* and the *ruled*; and a *phyſician* divides them into the *ſick* or the *healthy*; but a *divine* diſtributes them into *Turks*, *Heathens*, *Jews*, or *Chriſtians*.

Here *note*, That it is a very uſeleſs thing to diſtribute any idea into ſuch kinds or members as have no different properties to be ſpoken of; as it is mere trifling to divide *right angles* into ſuch *whoſe legs are equal, and whoſe legs are unequal*, for as to the mere right angles they have no different properties.

Rule. VI. In all your diſtributions obſerve the nature of things with great exactneſs, and do not affect any particular form of diſtribution, as ſome perſons have done, by dividing *every genus* into *two ſpecies*, or into *three ſpecies*; whereas nature is infinitely various, and human affairs and human ſciences have as great a variety; nor is there any one form of diſtribution that will exactly ſuit with all ſubjects.

Note, It is to this doctrine of *diſtribution of a genus into its ſeveral ſpecies* we muſt alſo refer the diſtribution of a *cauſe* according to its ſeveral *effects*, as ſome *medicines are heating, ſome are cooling*; or an *effect*, when it is diſtinguiſhed by its cauſes, as *faith is either built upon divine teſtimony* or *human*. It is to this head we refer particular *artificial bodies*, when they are diſtinguiſhed according to the *matter* they are made of, as a *ſtatue is either of braſs, of marble, or wood*, &c.

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and any other *beings*, when they are diſtinguiſhed according to their *end* and *deſign*, as the *furniture* of *body* or *mind is either for ornament or uſe*. To this head alſo we refer *ſubjects* when they are divided according to their *modes* or *accidents*; as *men are either merry, or grave, or ſad*; and *modes*, when they are divided by their *ſubjects*, as *diſtempers belong to the fluids, or to the ſolid parts of the animal*.

It is alſo to this place we reduce the *propoſals of a difficulty under its various caſes*, whether it be in ſpeculation or practice: As, to ſhew the reaſon of *ſunbeams burning wood, whether it be done by a convex glaſs or a concave*; or to ſhew the *conſtruction and menſuration of triangles*, whether you have two angles and a ſide given, or two ſides and an angle, or only three ſides. Here it is neceſſary to diſtribute or *divide a difficulty in all its caſes*, in order to gain a perfect knowledge of the ſubject you contemplate.

It might be obſerved here, that *logicians* have ſometimes given a *mark* or *ſign* to diſtinguiſh when it is an *integral whole* that is divided into its *parts* or *members*, or when it is a *genus*, an *univerſal whole*, that is diſtributed into its *ſpecies* and *individuals*. The rule they give is this: Whenſoever the whole idea can be directly and properly affirmed of each part, as, a *bird is an animal*, a *fiſh is an animal*, *Bucephalus is a horſe*, *Peter is a man*, then it is a diſtribution of a *genus* into its *ſpecies*, or a *ſpecies* into its *individuals*: But when the whole cannot be thus directly affirmed concerning every part, then it is a diviſion of an *integral* into its ſeveral *parts* or *members*; as we cannot ſay the *head*, the *breaſt*, the *hand*, or the *foot is an animal*, but we ſay, *the head is a part of the animal*, and the *foot* is another *part*.

This rule may hold true generally in corporeal beings, or perhaps in all ſubſtances: But, when we ſay *the fear of God is wiſdom, and ſo is human civility; criticiſm is true learning, and ſo is philoſophy: To execute a murderer is juſtice, and to ſave and defend the innocent*

nocent is juſtice too. In theſe caſes it is not ſo eaſily determined, whether an integral whole be divided into its parts, or an univerſal into its ſpecies: For the *fear of God* may be called either one *part*, or one *kind* of *wiſdom*: *Criticiſm* is one *part*, or one *kind* of *learning*: And the *execution of a murderer* may be called a *ſpecies of juſtice*, as well as a *part* of it. Nor indeed is it a matter of great importance to determine this controverſy.

SECT. XI.

Of an orderly Conception of Things.

THE *laſt rule* to direct our conceptions, is, that *we ſhould rank and place them in a proper method and juſt order.* This is of neceſſary uſe to prevent confuſion; for, as a *trader* who never places his goods in his ſhop or warehouſe in a regular order, nor keeps the accounts of his buying and ſelling, paying and receiving, in a juſt method, is in the utmoſt danger of plunging all his affairs into confuſion and ruin; ſo a *ſtudent* who is in the ſearch of truth, or an *author* or *teacher* who communicates knowledge to others, will very much obſtruct his deſign, and confound his own mind or the minds of his hearers, unleſs he range his ideas in juſt order.

If we would therefore become ſucceſsful learners or teachers, we muſt not conceive of things in a *confuſed heap*, but diſpoſe our ideas in ſome *certain method*, which may be moſt eaſy and uſeful both for the underſtanding and memory; and be ſure, as much as may be, *to follow the nature of things*, for which many rules might be given; namely,

1. Conceive as much as you can of the *eſſentials* of any ſubject, before you conſider its *accidentals*.

2. Survey firſt the general *parts* and *properties* of

any ſubject, before you extend your thoughts to diſcourſe of the particular *kinds* or *ſpecies* of it.

3. Contemplate things firſt in their own *ſimple natures*, and afterwards view them in *compoſition* with other things; unleſs it be your preſent purpoſe to take a *compound being* to pieces, in order to find out, or to ſhew the nature of it, by ſearching and diſcovering of what *ſimples* it is compoſed.

4. Conſider the *abſolute modes* or affections of any being as it is in itſelf, before you proceed to conſider it *relatively*, or to ſurvey the various *relations* in which it ſtands to other beings, *&c.*

Note, Theſe rules chiefly belong to the method of inſtruction which the learned call *ſynthetic*.

But in the regulation of our ideas, there is ſeldom an abſolute neceſſity that we ſhould place them in this or the other particular method: It is poſſible in ſome caſes that many methods may be equally good, that is, may equally aſſiſt the underſtanding and the memory: To frame a method exquiſitely accurate, according to the ſtrict nature of things, and to maintain this accuracy from the beginning to the end of a treatiſe, is a moſt rare and difficult thing, if not impoſſible. But a larger account of *method* would be very improper in this place, leſt we anticipate what belongs to the *fourth part of logic*.

SECT. XII.

Theſe five Rules of Conception exemplified.

IT may be uſeful here to give a ſpecimen of the *five ſpecial rules to direct our conceptions*, which have been the chief ſubject of this long chapter, and repreſent them practically in one view.

Suppoſe the theme of our diſcourſe was the *paſſions of the mind*.

1ſt,

1*ſt*, To gain a *clear* and *diſtinct* idea of *paſſion*, we muſt *define* both the *name* and the *thing*.

To begin with the *definition of the name*. We are not here to underſtand the word *paſſion* in its vulgar and moſt limited ſenſe, as it ſignifies merely *anger* or *fury*; nor do we take it in its moſt extenſive philoſophical ſenſe, for the *ſuſtaining the action* of an *agent*; but in the more limited philoſophical ſenſe, *paſſions* ſignify the *various affections of the mind*, ſuch as *admiration*, *love*, or *hatred*; this is the definition of the name.

We proceed to the *definition of the thing*. *Paſſion* is defined *a ſenſation of ſome ſpecial commotion in animal-nature, occaſioned by the mind's perception of ſome object ſuited to excite that commotion*. Here * the *genus*, or general nature of *paſſion*, is a *ſenſation of ſome ſpecial commotion in animal nature*; and herein it agrees with hunger, thirſt, pain, &c. The *eſſential difference* of it is, that this *commotion ariſes from a thought or perception of the mind*, and hereby it is diſtinguiſhed from hunger, thirſt, or pain.

2*dly*, We muſt conceive of it *completely*, or ſurvey the ſeveral parts that compoſe it. Theſe are, (1.) *The mind's perception of ſome object*. (2.) *The*

* Since this was written, I have publiſhed a ſhort treatiſe of the *paſſions*, wherein I have ſo far varied from this definition, as to call them *ſenſible commotions of our whole nature, both ſoul and body, occaſioned by the mind's perceptions of ſome object*, &c. I made this alteration in the deſcription of the paſſions in that book chiefly to include, in a more explicit manner, the paſſions of *deſire* and *averſion*, which are acts of *volition* rather than *ſenſations*. Yet ſince ſome commotions of animal nature attend all the paſſions, and ſince there is always a ſenſation of theſe commotions, I ſhall not change the definition I have written here; for this will agree to all the paſſions whether they include any act of volition or not; nor indeed is the matter of any great importance. *Nov.* 17. 1728.

conſequent ruffle, or ſpecial commotion of the nerves, and blood, and animal ſpirits. And, (3.) *The ſenſation of this inward commotion.*

3*dly*, We muſt conſider it *comprehenſively*, in its various *properties*. The moſt eſſential attributes that make up its nature have been already mentioned under the foregoing heads. Some of the moſt conſiderable properties that remain are theſe, namely, That *paſſion belongs to all mankind* in greater or leſſer degrees: *It is not conſtantly preſent with us, but upon ſome certain occaſions:* It is *appointed by our Creator for various uſeful ends and purpoſes*, namely, to give us vigour in the purſuit of what is good and agreeable to us, or in the avoidance of what is hurtful: *It is very proper for our ſtate of trial in this world: It is not utterly to be rooted out of our nature, but to be moderated and governed according to the rules of virtue and religion, &c.*

4*thly*, We muſt take cognizance of the various *kinds* of it, which is called an *extenſive conception* of it. If the object which the mind perceives be very *uncommon*, it excites the paſſion of *admiration:* If the object appears *agreeable*, it raiſes *love:* If the agreeable object be *abſent* and *attainable*, it cauſes *deſire:* If likely to be *obtained*, it excites *hope:* If *unattainable*, *deſpair*. If it be *preſent* and *poſſeſſed*, it is the paſſion of *joy:* If *loſt*, it excites *ſorrow:* If the object be *diſagreeable*, it cauſes in general *hatred* or *averſion:* If it be *abſent*, and yet we are in *danger* of it, it raiſes our *fear:* If it be *preſent*, it is *ſorrow*, and *ſadneſs*, *&c.*

5*thly*, All theſe things, and many more, which go to compoſe a treatiſe on this ſubject, muſt be placed in their *proper order:* A ſlight ſpecimen of which is exhibited in this ſhort account of *paſſion*, and which that admirable author *Deſcartes* has treated of at large; though, for want of ſufficient experiments and obſervations in natural philoſophy, there

there are ſome few miſtakes in his account of animal nature.

SECT. XIII.

An Illuſtration of theſe five rules by Similitudes.

THUS we have brought the firſt part of *logic* to a concluſion: And it may not be improper here to repreſent its excellencies (ſo far as we have gone) by general hints of its *chief deſign* and *uſe*, as well as by a various *compariſon* of it to thoſe inſtruments which mankind have invented for their ſeveral conveniencies and improvements.

The *deſign of logic* is not to furniſh us with the perceiving faculty, but only *direct* and *aſſiſt* us in the uſe of it: It doth not give us the objects of our ideas, but only *caſts ſuch a light* on thoſe objects which nature furniſhes us with, that they may be the more clearly and diſtinctly known: It doth not add new parts or properties to things, but it *diſcovers* the various parts, properties, relations, and dependencies of one thing upon another, and by *ranking all things* under *general* and *ſpecial heads*, it renders the nature, or any of the properties, powers, and uſes of a thing, more eaſy to be found out, when we ſeek in what rank of beings it lies, and wherein it agrees with, and wherein it differs from others.

If any compariſons would illuſtrate this, it may be thus repreſented.

I. When logic aſſiſts us to attain a *clear* and *diſtinct* conception of the nature of things by *definition*, it is like thoſe *glaſſes* whereby we behold ſuch objects *diſtinctly*, as, by reaſon of their ſmallneſs, or their great diſtance, appear in *confuſion* to the naked eye: So the teleſcope diſcovers to us diſtant wonders in the heavens, and ſhews the *milky way*, and the *bright cloudy ſpots* in a very dark ſky, to be a

collection of little ſtars, which the eye unaſſiſted beholds in a mingled confuſion. So when bodies are too *ſmall* for our ſight to ſurvey them diſtinctly, then the *microſcope* is at hand for our aſſiſtance, to ſhew us all the *limbs* and *features* of the moſt *minute animals*, with great clearneſs and diſtinction.

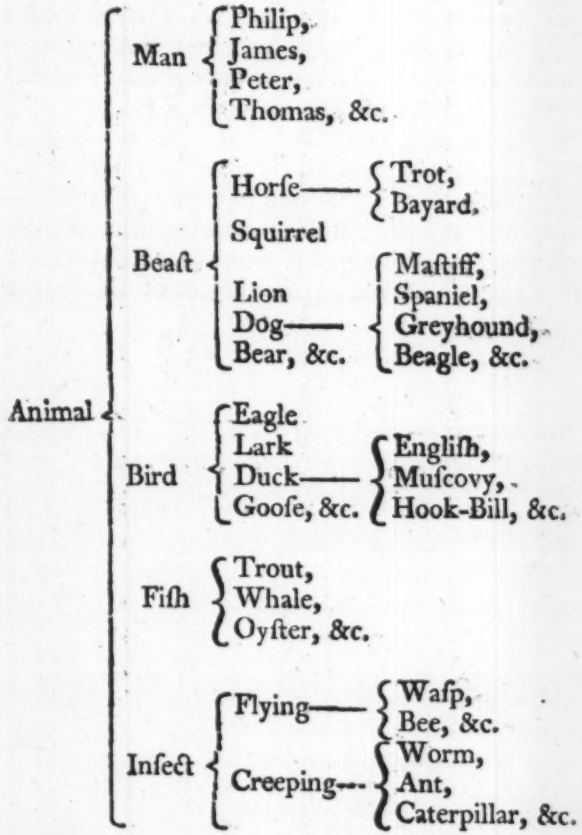
II. When we are taught by logic to view a thing *completely* in all its *parts*, by the help of *diviſion*, it has the uſe of an *anatomical knife*, which diſſects an animal body, and ſeparates the *veins*, *arteries*, *nerves*, *muſcles*, *membranes*, &c. and ſhews us the ſeveral parts which go to the compoſition of a complete animal.

III. When logic inſtructs us to ſurvey an object *comprehenſively* in all the *modes*, *properties*, *relations*, *faces*, and *appearances* of it, it is of the ſame uſe as a terreſtrial globe, which turning round on its axis repreſents to us all the variety of *lands* and *ſeas*, *kingdoms* and *nations*, on the ſurface of the earth, in a very ſhort ſucceſſion of time ſhews the ſituations and various relations of them to each other, and gives a comprehenſive view of them in miniature.

IV. When this art teaches us to *diſtribute* any *extenſive* idea into its different *kinds* or *ſpecies*, it may be compared to the *priſmatic glaſs*, that receives the ſun-beams or *rays of light*, which ſeem to be uniform when falling upon it, but it ſeparates and diſtributes them into their different *kinds* and *colours*, and ranks them in their proper ſucceſſion.

Or, if we deſcend to *ſubdiviſions* and ſubordinate ranks of being, then *diſtribution* may alſo be ſaid to form the reſemblance of a *natural tree*, wherein the *genus* or general idea ſtands for the *root* or *ſtock*, and the ſeveral *kinds* or *ſpecies*, and *individuals*, are diſtributed abroad, and repreſented in their dependance and connection, like the ſeveral *boughs*, *branches*, and *leſſer ſhoots*. For inſtance, let *animal* be

be the *root* of a logical tree the reſemblance is ſeen by mere inſpection, though the root be not placed at the bottom of the page.



The ſame ſimilitude will ſerve alſo to illuſtrate the *diviſion* and *ſubdiviſion* of an *integral whole* into its ſeveral parts.

When logic directs us to place all our ideas in a *proper method*, moſt convenient both for inſtruction and memory, it doth the ſame ſervive as the

caſes of well-contrived ſhelves in a large library, wherein *folios*, *quartos*, *octavos*, and *leſſer volumes*, are diſpoſed in ſuch exact order, under the particular heads of *divinity*, *hiſtory*, *mathematics*, *ancient* and *miſcellaneous* learning, &c. that the ſtudent knows where to find every book, and has them all as it were within his command at once, becauſe of the exact order wherein they are placed.

The man who has ſuch aſſiſtances as theſe at hand, in order to manage his *conceptions*, and regulate his *ideas*, is well prepared to improve his knowledge, and to *join theſe ideas together* in a regular manner by *judgment*, which is the ſecond operation of the mind, and will be the ſubject of the ſecond part of logic.

THE

THE

SECOND PART

OF

LOGIC.

OF JUDGMENT AND PROPOSITION.

WHEN the mind has got acquaintance with things by framing *ideas* of them, it proceeds to the next operation, and that is, to compare theſe ideas together, and to join them by *affirmation*, or disjoin them by *negation*, according as we find them to agree or diſagree. This act of the mind is called *judgment*; as when we have by perception obtained the ideas of *Plato* a *philoſopher*, *man innocent*, we form theſe judgments; *Plato was a Philoſopher*: *No man is innocent*.

Some writers have aſſerted, that *judgment* conſiſts in a *mere perception of the agreement or diſagreement of ideas*. But I rather think there is an act of the will (at leaſt in moſt caſes) neceſſary to form a *judgment*; for, though we do perceive, or think we perceive, ideas to *agree* or *diſagree*, yet we may ſometimes *re-*

frain from judging or aſſenting to the perception, for fear leſt the perception ſhould not be ſufficiently clear, and we ſhould be miſtaken: And I am well aſſured at other times, that there are multitudes of *judgments formed*, and a firm aſſent given to ideas *joined* or *disjoined*, before there is any clear perception whether they agree or diſagree; and this is the reaſon of ſo many *falſe judgments* or miſtakes among men. Both theſe practices are a proof that *judgment* has ſomething of the *will* in it, and does not merely conſiſt in *perception*; ſince we ſometimes judge, (though unhappily) without perceiving, and ſometimes we perceive without immediate judging.

As an *idea* is the reſult of our *conception* or *apprehenſion*, ſo a *propoſition* is the effect of *judgment*. The foregoing ſentences, which are examples of the act of judgment, are properly called *propoſitions*. *Plato is a philoſopher*, &c.

Here let us conſider,

1. *The general nature of a* propoſition, *and the parts of which it is compoſed.*
2. *The various diviſions or kinds of* propoſitions.
3. *The ſprings of falſe judgment, or the doctrine of prejudices.*
4. *General directions to aſſiſt us in judging right.*
5. *Special rules to direct us in judging particular objects.*

CHAP. I.

Of the Nature of a PROPOSITION, *and its ſeveral Parts.*

A *Propoſition* is a ſentence wherein two or more *ideas* or *terms* are joined or disjoined by one affirmation

affirmation or negation, as *Plato was a philoſopher*: *Every angle is formed by two lines meeting*: *No man living on earth can be completely happy*. When there are ever ſo many ideas or terms in the ſentence, yet if they are joined or disjoined merely by one ſingle affirmation or negation, they are properly called but *one propoſition*, though they may be reſolved into *ſeveral* propoſitions which are implied therein, as will appear hereafter.

In deſcribing a *propoſition*, I uſe the words *terms* as well as *ideas*, becauſe, when mere ideas are joined in the mind without words, it is rather called a *judgment*; but when clothed with words it is called a *propoſition*, even though it be in the mind only, as well as when it is expreſſed by ſpeaking or writing.

There are *three* things which go to the nature and conſtitution of a propoſition, namely, the *ſubject*, the *predicate*, and the *copula*.

The *ſubject* of a propoſition is that concerning which any thing is affirmed or denied: So *Plato*, *angle*, *man living on earth*, are the ſubjects of the foregoing propoſitions.

The *predicate* is that which is affirmed or denied of the ſubject; ſo *philoſopher* is the predicate of the firſt propoſition; *formed by two lines meeting*, is the predicate of the ſecond; *capable of being completely happy*, the proper predicate of the third

The *ſubject* and *predicate* of a *propoſition* taken together, are called the *matter* of it; for theſe are the materials of which it is made.

The *copula* is the *form* of a propoſition; it repreſents the act of the mind affirming or denying, and it is expreſſed by the words, *am*, *art*, *is*, *are*, &c. or *am not*, *art not*, *is not*, *are not*, &c.

It is not a thing of importance enough to create diſpute, whether the words *no*, *none*, *not*, *never*, &c. which disjoin the idea or terms in a negative propoſition, ſhall be called a part of the ſubject of the *copula*, or of the *predicate*. Sometimes perhaps

they may ſeem moſt naturally to be included in one, and ſometimes in the other of theſe, though a propoſition is uſually denominated *affirmative* or *negative* from its *copula*, as hereafter.

Note 1. Where each of theſe parts of a propoſition is not expreſſed diſtinctly in ſo many words, yet they are all underſtood, and implicitly contained therein; as *Socrates diſputed*, is a complete propoſition, for it ſignifies *Socrates was diſputing*. So *I die*, ſignifies *I am dying*. *I can write*, that is, *I am able to write*. In Latin and Greek one ſingle word is many times a complete compoſition.

Note 2. Theſe words *am*, *art*, *is*, &c. when they are uſed alone without any other predicate, ſignify both the *act of the mind judging*, which includes the *copula*, and ſignify alſo *actual* exiſtence, which is the *predicate* of that propoſition. So *Rome is*, ſignifies *Rome is exiſtent: There are ſome ſtrange monſters*: that is, *Some ſtrange monſters are exiſtent: Carthage is no more*, that is, *Carthage has no being*.

Note 3. The ſubject and predicate of a propoſition are not always to be known and diſtinguiſhed by the placing of the words in the ſentence, but by reflecting duly on the ſenſe of the words, and on the mind and deſign of the ſpeaker or writer: As if I ſay, *In Africa there are many lions*, I mean *Many lions are exiſtent in Africa: Many lions* is the ſubject, and *exiſtent in Africa* is the predicate. *It is proper for a philoſopher to underſtand geometry*; here the word *proper* is the predicate, and all the reſt is the ſubject, except *Is* the copula.

Note 4. The ſubject and predicate of a propoſition ought always to be two different *ideas*, or two different *terms*; for, where both the *terms* and *ideas* are the ſame, it is called an *identical propoſition*, which is mere trifling, and cannot tend to promote knowledge; ſuch as, *A rule is a rule*, or *A good man is a good man*.

But there are ſome propoſitions, wherein the *terms*

terms of the ſubject and predicate ſeem to be the ſame; yet the *ideas* are not the ſame; nor can theſe be called *purely identical* or trifling propoſitions; ſuch as *Home is home;* that is, *Home is a convenient* or *delightful place; Socrates is Socrates ſtill;* that is, *The man Socrates is ſtill a philoſopher: The hero was not a hero;* that is, *The hero did not ſhew his courage; What have I written, I have written;* that is, *What I wrote, I ſtill approve, and will not alter it: What is done, is done;* that is, *it cannot be undone.* It may be eaſily obſerved in theſe propoſitions the term is *equivocal,* for in the *predicate* it has a different idea from what it has in the *ſubject.*

There are alſo ſome propoſitions wherein the *terms* of the ſubject and predicate differ, but the *ideas* are the ſame; and theſe are not *merely identical* or trifling propoſitions; as *impudent* is *ſhameleſs;* a *billow* is a *wave;* or *fluctus* (in Latin) is a *wave;* a *globe* is a *round body.* In theſe propoſitions, either the words are explained by a definition of the name, or the ideas by a definition of the thing, and therefore they are by no means uſeleſs when formed for this purpoſe.

CHAP. II.

Of the various Kinds of PROPOSITIONS.

PRopoſitions may be diſtributed into various kinds, according to their *ſubject,* their *copula,* their *predicate,* their *nature* or *compoſition,* their *ſenſe,* and their *evidence,* which diſtributions will be explained in the following ſections.

SECT.

SECT. I.

Of Univerſal, Particular, Indefinite, and Singular PROPOSITIONS.

PRopoſitions may be divided, according to their *ſubject*, into *univerſal* and *particular*; this is uſually called a diviſion ariſing from the *quantity*.

An *univerſal propoſition* is when the ſubject is taken according to the whole of its extenſion; ſo, if the ſubject be a *genus*, or a general nature, it includes all its *ſpecies* or *kinds*: If the ſubject be a *ſpecies*, it includes all individuals. This univerſality is uſually ſignified by theſe words, *all*, *every*, *no*, *none*, or the like; as, *All men muſt die: No man is almighty: Every creature had a beginning.*

A *particular propoſition*, is when the ſubject is not taken according to its whole extenſion; that is, when the term is limited and reſtrained to ſome one or more of thoſe *ſpecies* or *individuals* whoſe general nature it expreſſes, but reaches not to all; and this is uſually denoted by the words, *ſome*, *many*, *few*, *there are which*, &c. as, *Some birds can ſing well; Few men are truly wiſe: There are parrots which will talk an hundred things.*

A *ſingular propoſition* is when the ſubject is a ſingular or individual term or idea; as, *Deſcartes was an ingenious philoſopher: Sir Iſaac Newton has far exceeded all his predeceſſors: The palace at Hampton Court is a pleaſant dwelling: This day is very cold.* The ſubject here muſt be taken according to the whole of its extenſion, becauſe, being an *individual*, it can extend only to one, and it muſt therefore be regulated by the laws of *univerſal propoſitions*.

An *indefinite propoſition*, is when no note, either of univerſality or particularity, is prefixed to a ſubject, which is in its own nature general; as, *A planet is ever changing its place: Angels are noble creatures.*

creatures. Now this ſort of propoſition, eſpecially when it deſcribes the nature of things, is uſually counted *univerſal* alſo, and it ſuppoſes the ſubject to be taken in its whole extenſion: For, if there were any *planet* which did not *change its place*, or any *angel* that were not a *noble creature*, theſe propoſitions would not be ſtrictly true.

Yet, in order to ſecure us againſt miſtakes in judging of *univerſal*, *particular*, and *indefinite* propoſitions, it is neceſſary to make theſe following remarks.

I. Concerning *univerſal propoſitions.*

Note 1. Univerſal terms may either denote a *metaphyſical*, a *phyſical*, or a *moral* univerſality.

A *metaphyſical* or *mathematical univerſality*, is, when all the particulars contained under any general idea have the ſame predicate belonging to them, without any exception whatſoever; or when the predicate is ſo eſſential to the univeral ſubject, that it deſtroys the very nature of the ſubject to be without it; as, *All circles have a center and circumference: All ſpirits in their own nature are immortal.*

A *phyſical* or *natural univerſality*, is when, according to the order and common courſe of nature, a predicate agrees to all the ſubjects of that kind, though there may be ſome accidental and preternatural exceptions; as, *All men uſe words to expreſs their thoughts*, yet *dumb* perſons are excepted, for they cannot ſpeak. *All beaſts have four feet*, yet there may be ſome *monſters* with five; or *maimed*, who have but three.

A *moral univerſality*, is when the predicate agrees to the greateſt part of the particulars which are contained under the univerſal ſubject; as, *All negroes are ſtupid creatures: All men are governed by affection rather than by reaſon: All the old Romans loved their country:* And the ſcripture uſes this language, when St Paul tells us, *The Cretes are always liars.*

Now,

Now it is evident, that a ſpecial or ſingular concluſion cannot be inferred from a *moral univerſality*, nor always and infallibly from a *phyſical* one, though it may be always inferred from an univerſality which is *metaphyſical*, without any danger or poſſibility of a miſtake.

Let it be obſerved alſo, that uſually we make little or no diſtinction in common language, between a ſubject that is *phyſically* or *metaphyſically* univerſal.

Note 2. An *univerſal* term is ſometimes taken *collectively* for all its particular ideas united together, and ſometimes *diſtributively*, meaning each of them ſingle and alone.

Inſtances of a *collective univerſal* are ſuch as theſe: *All theſe apples will fill a buſhel: All the hours of the night are ſufficient for ſleep: All the rules of grammar overload the memory.* In theſe propoſitions it is evident, that the predicate belongs not to the *individual, ſeparately*, but to the *whole collective* idea; for we cannot affirm the ſame predicate if we change the word *all* into *one* or into *every*, we cannot ſay *one apple* or *every apple will fill a buſhel*, &c. Now ſuch a *collective idea*, when it becomes the ſubject of a propoſition, ought to be eſteemed as one ſingle thing; and this renders the propoſition *ſingular* or *indefinite*, as we ſhall ſhew immediately.

A *diſtributive univerſal* will allow the word *all* to be changed into *every*, or into *one*, and by this means is diſtinguiſhed from a *collective*.

Inſtances of a *diſtributive univerſal* are the moſt common on every occaſion; as, *All men are mortal: Every man is a ſinner*, &c. But, in this ſort of *univerſal* there is a diſtinction to be made, which follows in the next remark.

Note 3. When an *univerſal term* is taken *diſtributively*, ſometimes it includes all the individuals contained in its inferior ſpecies: As when I ſay, *Every ſickneſs has a tendency to death*; I mean, *every individual ſickneſs*, as well as *every kind*. But ſometimes it includes

cludes no more than merely *each ſpecies* or *kind*; as, when the Evangeliſt ſays, *Chriſt healed every diſeaſe*, or *every diſeaſe was healed by Chriſt*; that is, *every kind* of diſeaſe. The *firſt* of theſe, logicians call the diſtribution of an univerſal *in ſingula generum*; the *laſt* is a diſtribution *in genera ſingulorum*. But, either of them joined to the ſubject, render a propoſition *univerſal*.

Note 4. The *univerſality* of a ſubject is often reſtrained by a part of the predicate; as when we ſay, *All men learn wiſdom by experience*: The univerſal ſubject, *all men*, is limited to ſignify only *all thoſe men who learn wiſdom*. The ſcripture alſo uſes this ſort of language, when it ſpeaks of *all men being juſtified by the righteouſneſs of one*, Rom. v. 18. that is, *all men who are juſtified* obtain it in this way.

Obſerve here, That not only a *metaphyſical* or *natural*, but a *moral* univerſality alſo is oftentimes to be reſtrained by a part of the predicate; as when we ſay, *All the Dutch are good ſeamen: All the Italians are ſubtil politicians*; that is, thoſe among the Dutch that are *ſeamen* are good ſeamen; and thoſe among the Italians who are *politicians* are ſubtil politicians, that is, they are generally ſo.

Note 5. The univerſality of a term is many times reſtrained by the particular *time*, *place*, *circumſtance*, &c. or the *deſign* of the ſpeaker; as, if we were in the city of *London*, and ſay, *All the weavers went to preſent their petition*; we mean only, *All the weavers who dwell in the city*. So when it is ſaid in the goſpel, *All men did marvel*, Mark v. 20. it reaches only to *All thoſe men who heard of the miracles of our Saviour*.

Here alſo it ſhould be obſerved, that a *moral univerſality* is reſtrained by *time*, *place*, and other circumſtances, as well as a *natural*; ſo that by theſe means the word *all* ſometimes does not extend to a tenth part of thoſe who at firſt might ſeem to be included in that word.

One occaſion of theſe difficulties and ambiguities, that

that belong to *univerſal propoſitions*, is the common humour and temper of mankind, who generally have an inclination to magnify their ideas, and to talk roundly and *univerſally* concerning any thing they ſpeak of; which has introduced univerſal terms of ſpeech into cuſtom and habit, in all nations and all languages, more than nature or reaſon would dictate; yet, when this cuſtom is introduced, it is not at all improper to uſe this ſort of language in ſolemn and ſacred writings, as well as in familiar diſcourſe.

II. Remarks concerning *indefinite propoſitions*.

Note 1. Propoſitions carrying in them univerſal forms of expreſſion may ſometimes drop the *note of univerſality*, and become *indefinite*, and yet retain the ſame univerſal ſenſe, whether *metaphyſical*, *natural*, or *moral*, whether *collective or diſtributive*.

We may give inſtances of each of theſe.

Metapyſical; as, *A circle has a center and circumference.* Natural; as, *Beaſts have four feet.* Moral; as, *Negroes are ſtupid creatures.* Collective; as, *The apples will fill a buſhel.* Diſtributive; as, *Men are mortal.*

Note 2. There are many caſes wherein a *collective idea* is expreſſed in a propoſition by an *indefinite term*, and that where it deſcribes the *nature* or *quality* of the ſubject, as well as when it declares ſome *paſt matters of fact*; as, *Fir-trees ſet in good order will give a charming proſpect*; this muſt ſignify a *collection* of fir-trees, for one makes no proſpect. In matters of fact this is more evident and frequent; as, *The Romans overcame the Gauls: The robbers ſurrounded the coach: The wild geeſe flew over the Thames in the form of a wedge.* All theſe are collective ſubjects.

Note 3. In *indefinite propoſitions* the ſubject is often reſtrained by the predicate, or by the ſpecial time, place, or circumſtances, as well as in propoſitions which are expreſsly univerſal; as, *The Chineſes are ingenious*

ingenious ſilk-weavers; that is, thoſe Chineſes which are *ſilk-weavers* are *ingenious* at their work. *The ſtars appear to us when the twilight is gone*; this can ſignify no more than the *ſtars* which are above our horizon.

Note 4. All theſe reſtrictions tend to reduce ſome *indefinite* propoſitions almoſt into *particular*, as will appear under the next remarks.

III. Remarks concerning *particular propoſitions.*

Note 1. A *particular* propoſition may ſometimes be expreſſed *indefinitely*, without any note of particularity prefixed to the ſubject; as, *In times of confuſion laws are not executed: Men of virtue are diſgraced, and murderers eſcape*; that is, *ſome laws, ſome men of virtue, ſome murderers*: Unleſs we ſhould call this language a *moral univerſality*, though I think it can hardly extend ſo far.

Note 2. The words *ſome, a few*, &c. though they generally denote a proper *particularity*, yet ſometimes they expreſs a *collective idea*; as *Some of the enemies beſet the general around: A few Greeks would beat a thouſand Indians.*

I conclude this ſection with a few *general remarks* on this ſubject, namely,

Gen. Rem. I. Since *Univerſal, indefinite* and *particular* terms, in the plural number, may either be taken in a *collective* or *diſtributive* ſenſe, there is one ſhort and eaſy way to find when they are *collective*, and when *diſtributive*; namely, If the plural number may be changed into the ſingular, that is, if the predicate will agree to one ſingle ſubject, it is a *diſtributive* idea; if not, it is *collective.*

Gen. Rem. II. *Univerſal* and *particular* terms in the plural number; ſuch as, *all, ſome, few, many*, &c. when they are taken in their *diſtributive* ſenſe, repreſent *ſeveral ſingle ideas*; and when they are thus affixed to the ſubject of a propoſition, render that propoſition

propoſition *univerſal* or *particular*, according to the univerſality or particularity of the terms affixed.

Gen. Rem. III. *Univerſal* and *particular* terms, in the plural number, taken in their *collective* ſenſe, repreſent generally one *collective idea.*

If this one *collective idea* be thus repreſented, (whether by univerſal or particular terms), as the ſubject of a propoſition, which *deſcribes the nature of a thing*, it properly makes either a *ſingular* or an *indefinite propoſition*; for the words *all*, *ſome*, *a few*, &c. do not then denote the *quantity* of the propoſition, but are eſteemed merely as terms which connect the individuals together, in order to compoſe *one collective idea.* Obſerve theſe inſtances; *All the ſycamores in the garden would make a large grove*; that is, this one collection of ſycomores, which is a *ſingular idea. Some of the ſycomores in the garden would make a fine grove: Sycomores would make a noble grove:* In theſe laſt the ſubject is rather *indefinite* than *ſingular.* But it is very evident, that in each of theſe propoſitions the predicate can only belong to a *collective idea*, and therefore the ſubject muſt be eſteemed a *collective.*

If this *collective idea* (whether repreſented by univerſal or particular terms) be uſed in *deſcribing paſt matters of fact*, then it is generally to be eſteemed a *ſingular* idea, and renders the propoſition *ſingular*; as, *All the ſoldiers of Alexander made but a little army: A few Macedonians vanquiſhed the large army of Darius: Some grenadiers in the camp plundered all the neighbouring towns.*

Now we have ſhewn before, that if a propoſition deſcribing the *nature of things* has an *indefinite* ſubject, it is generally to be eſteemed *univerſal* in its propoſitional ſenſe: And, if it has a *ſingular ſubject*, in its propoſitional ſenſe it is always ranked with *univerſals.*

After all, we muſt be forced to confeſs, that the language of mankind, and the idioms of ſpeech, are ſo

ſo exceeding various, that it is hard to reduce them to a few rules; and, if we would gain a juſt and preciſe idea of every *univerſal*, *particular*, and *indefinite* expreſſion, we muſt not only conſider the peculiar idiom of the language, but the time, the place, the occaſion, the circumſtances of the matter ſpoken of, and thus penetrate, as far as poſſible, into the deſign of the ſpeaker or writer.

SECT. IV.

Of Affirmative and Negative PROPOSITIONS.

WHEN a propoſition is conſidered with regard to its *copula*, it may be divided into *affirmative* and *negative*; for it is the *copula* joins or disjoins the *two ideas*. Others call this a diviſion of propoſitions according to their quality.

An *affirmative propoſition* is when the idea of the predicate is ſuppoſed to agree to the idea of the ſubject, and is joined to it by the word *is*, or *are*, which is the *copula*; as, *All men are ſinners*. But, when the predicate is not ſuppoſed to agree with the ſubject, and is disjoined from it by the particles *is not*, *are not*, &c. the propoſition is *negative*; as, *Man is not innocent*; or, *No man is innocent*. In an affirmative propoſition, we aſſert one thing to belong to another, and, as it were, unite them in thought and word: In negative propoſitions, we ſeparate one thing from another, and deny their agreement.

It may ſeem ſomething odd, that two ideas or terms are ſaid to be *disjoined*, as well as *joined* by a copula: But, if we can but ſuppoſe the negative particles do really belong to the copula of negative propoſitions, it takes away the harſhneſs of the expreſſion; and, to make it yet ſofter, we may conſider that the predicate and ſubject may be properly ſaid to be joined *in a form of words as a propoſition*, by connective particles in grammar or logic, though they

are

are disjoined in their ſenſe and ſignification. Every youth, who has learned his grammar, knows there are ſuch words as *disjunctive propoſitions*.

Several things are worthy our notice on this ſubject.

Note 1ſt, As there are ſome *terms*, or *words*, and *ideas*, (as I have ſhewn before), concerning which it is hard to determine whether they are *negative* or *poſitive*, ſo there are ſome *propoſitions* concerning which it may be difficult to ſay, whether they *affirm* or *deny*: As, when we ſay, *Plato was no fool*: *Cicero was no unſkilful orator*; *Cæſar made no expedition to Muſcovy*: *An Oyſter has no part like an eel*: *It is not neceſſary for a phyſician to ſpeak French*; and *for a phyſician to ſpeak French is needleſs*. The *ſenſe* of theſe propoſitions is very plain and eaſy, though logicians might ſquabble perhaps a whole day, whether they ſhould rank them under the names of *negative* or *affirmative*.

Note 2, In Latin and Engliſh, two negatives joined in one ſentence make an affirmative; as when we declare, *No man is not mortal*; it is the ſame as though we ſaid, *Man is mortal*. But, in Greek, and oftentimes in French, two negatives make but a ſtronger denial.

Note 3d, If the mere negative term *not* be added to the copula of an *univerſal affirmative propoſition*, it reduces it to a *particular negative*; as, *All men are not wiſe*, ſignifies the ſame as, *Some men are not wiſe*.

Note 4th, In all *affirmative* propoſitions, the predicate is taken in its whole comprehenſion; that is, every eſſential part and attribute of it is affirmed concerning the ſubject; as when I ſay, *A true Chriſtian is an honeſt man*, every thing that belongs to *honeſty* is affirmed concerning a *true Chriſtian*.

Note 5th, In all negative propoſitions the predicate is taken in its whole extenſion; that is, every ſpecies and individual that is contained in the general idea of the predicate, is utterly denied concerning

ing the ſubject: So in this propoſition, *A ſpirit is not an animal*, we exclude all ſorts and kinds and particular animals whatſoever from the idea of a *ſpirit*.

From theſe two laſt remarks we may derive this inference, that we ought to attend to the *entire comprehenſion* of our ideas, and to the *univerſal extenſion* of them, as far as we have proper capacity for it, before we grow too confident in our affirming or denying any thing which may have the leaſt darkneſs, doubt or difficulty attending it: It is the want of this attention that betrays us into many miſtakes.

SECT. III.

Of the Oppoſition and Converſion of PROPOSITIONS.

ANY two ideas being joined or disjoined in various forms, will afford us ſeveral propoſitions. All theſe may be diſtinguiſhed according to their *quantity* and their *quality* * into four, which are marked or denoted by the letters, A, E, I, O, thus:

A, E, I, O denotes a
- A — Univerſal affirmative.
- E — Univerſal negative.
- I — Particular affirmative.
- O — Particular negative.

according to theſe old Latin rhimes——

Aſſerit A, *negat* E, *verum generaliter ambæ.*
Aſſerit I, *negat* O, *ſed particulariter ambo.*

This may be exemplified by theſe two ideas, a *vine* and a *tree*.

A *Every vine is a tree.*
E *No vine is a tree.*
I *Some vine is a tree.*
O *Some vine is not a tree.*

The

* The reader ſhould remember here, that a propoſition according to its *quantity* is called *univerſal* or *particular*; and according to its *quality*, it is either *affirmative* or *negative*.

The logicians of the ſchools have written many large trifles concerning the *oppoſition* and *converſion* of *propoſitions*. It will be ſufficient here to give a few brief hints of theſe things, that the learner may not be utterly ignorant of them.

Propoſitions which are made of the ſame ſubject and predicate, are ſaid to be *oppoſite*, when that which is denied in one is affirmed in the other, either in whole or in part, without any conſideration whether the propoſitions be true or no.

If they differ both in quantity and quality, they are called *contradictory*; as,

A *Every vine is a tree.*
O *Some vine is not a tree.*
} Theſe can never be both true or both falſe at the ſame time.

If two univerſals differ in quality, they are *contraries*; as,

A *Every vine is a tree.*
E *No vine is a tree.*
} Theſe can never be both true together, but they may be both falſe.

If two *particular* propoſitions differ in quality, they are *ſubcontraries*; as,

I *Some vine is a tree.*
O *Some vine is not a tree.*
} Theſe may be both true together, but they can never be both falſe.

Both *particular* and *univerſal* propoſitions, which agree in quality, but not in quantity, are called *ſubaltern*, though theſe are not properly *oppoſite*, as,

A *Every vine is a tree.*
I *Some vine is a tree.*

Or thus:

E *No vine is a tree.*
O *Some vine is not a tree.*

The canons of *ſubaltern propoſitions* are uſually reckoned theſe three; namely, (1) If an *univerſal* propoſition be true, the particular will be true alſo, but

but not on the contrary. And, (2.) If a *particular* propoſition be falſe, the *univerſal* muſt be falſe too, but not on the contrary. (3.) *Subaltern propoſitions*, whether univerſal or particular, may ſometimes be both true, and ſometimes both falſe.

The *converſion of propoſitions*, is when the ſubject and predicate change their places with preſervation of the truth. This may be done with conſtant certainty in all *univerſal negatives* and *particular affirmatives*; as, *No ſpirit is an animal*, may be converted, *No animal is a ſpirit*: and, *Some tree is a vine*, may be converted, *Some vine is a tree*. But there is more of formal trifling in this ſort of diſcourſe than there is of ſolid improvement, becauſe this ſort of *converſion* ariſes merely from the *form of words*, as connected in a propoſition, rather than from the *matter*.

Yet it may by uſeful to obſerve, that there are ſome propoſitions, which, by reaſon of the *ideas* or *matter* of which they are compoſed, may be converted with conſtant truth: Such are thoſe propoſitions whoſe predicate is a *nominal* or *real* definition of the ſubject, or the difference of it, or a property of the fourth kind, or a ſuperlative degree of any property or quality whatſoever; or, in ſhort, whereſoever the predicate and the ſubject have exactly the ſame extenſion, or the ſame comprehenſion; as, *Every vine is a tree bearing grapes*; and, *Every tree bearing grapes is a vine*: *Religion is the trueſt wiſdom*; and, *The trueſt wiſdom is religion*: *Julius Cæſar was the firſt emperor of Rome*; and, *The firſt emperor of Rome was Julius Cæſar*. Theſe are the propoſitions which are properly convertible, and they are called *reciprocal propoſitions*.

SECT. IV.

Of Pure and Modal PROPOSITIONS.

ANOTHER diviſion of propoſitions among the ſcholaſtic writers is into *pure* and *modal*. This may be called (for diſtinction ſake) a diviſion *according* to the predicate.

When a propoſition merely expreſſes that the predicate is connected with the ſubject, it is called a *pure propoſition*; as, *Every true Chriſtian is an honeſt man.* But, when it alſo includes the *way* and *manner* wherein the predicate is connected with the ſubject, it is called a *modal propoſition*; as when I ſay, *It is neceſſary that a true Chriſtian ſhould be an honeſt man.*

Logical writers generally make the *modality* of this propoſition to belong to the *copula*, becauſe it ſhews the *manner* of the connection between the ſubject and predicate. But, if the *form* of the ſentence as a *logical* propoſition be duly conſidered, the *mode* itſelf is the very predicate of the propoſition, and it muſt run thus: *That a true Chriſtian ſhould be an honeſt man is a neceſſary thing*, and then the whole *primary* propoſition is included in the ſubject of the *modal* propoſition.

There are *four modes* of connecting the predicate with the ſubject, which are uſually reckoned up on this occaſion, namely, *neceſſity* and *contingency*, which are two oppoſites; *poſſibility* and *impoſſibility*, which are alſo oppoſites; as, *It it neceſſary that a globe ſhould be round: That a globe be made of wood or glaſs, is an unneceſſary or contingent thing: It is impoſſible that a globe ſhould be ſquare: It is poſſible that a globe may be made of water.*

With regard to the *modal propoſitions* which the ſchools have introduced, I would make theſe two remarks.

Remark

Remark 1. Theſe propoſitions in Engliſh are formed by the reſolution of the words, *muſt be*, *might not be*, *can be*, and *cannot be*, into thoſe more explicate forms of a logical copula and predicate, *is neceſſary*, *is contingent*, *is poſſible*, *is impoſſible*: For *it is neceſſary that a globe ſhould be round*, ſignifies no more than that *a globe muſt be round*.

Remark 2. Let it be noted, that this quadruple *modality* is only an enumeration of the *natural modes* or manners wherein the predicate is connected with the ſubject: We might alſo deſcribe ſeveral *moral* and *civil modes* of connecting two ideas together, namely, *lawfulneſs* and *unlawfulneſs*, *conveniency* and *inconveniency*, &c. whence we may form ſuch *modal propoſitions* as theſe: *It is unlawful for any perſon to kill an innocent man. It is unlawful for Chriſtians to eat fleſh in Lent: To tell all that we think is inexpedient: For a man to be affable to his neighbour is very convenient*, &c.

There are ſeveral other *modes* of ſpeaking whereby a predicate is connected with a ſubject: Such as, *it is certain*, *it is doubtful*, *it is probable*, *it is improbable*, *it is agreed*, *it is granted*, *it is ſaid by the ancients*, *it is written*, &c. all which will form other kinds of *modal propoſitions*.

But, whether the *modality* be *natural*, *moral*, &c. yet in all theſe propoſitions it is the *mode* is the *proper predicate*, and all the reſt of the propoſition, except the *copula*, (or word *is*), belongs to the *ſubject*; and thus they become *pure propoſitions* of a *complex* nature, of which we ſhall treat in the next ſection; ſo that there is no great need of making *modals* of a diſtinct ſort.

There are many little ſubtilties which the ſchools acquaint us with concerning the *converſion* and *oppoſition* and *equipollence* of theſe modal propoſitions, ſuited to the Latin or Greek tongues, rather than the Engliſh, and fit to paſs away the idle time of a ſtudent, rather than to enrich his underſtanding.

SECT. V.

Of single PROPOSITIONS, *whether Simple or Complex.*

WHEN we consider the *nature of propositions*, together with the *formation* of them, and the *materials* whereof they are made, we divide them into *single* and *compound*.

A *single proposition*, is that which has but one subject and one predicate; but if it has more subjects or more predicates, it is called a *compound proposition*, and indeed it contains two or more propositions in it.

A *single* proposition (which is also called *categorical*) may be divided again into *simple* and *complex**.

A *purely simple proposition* is that whose subject and predicate are made up of single terms; as *Virtue is desireable: Every penitent is pardoned: No man is innocent.*

When the subject or predicate, or both, are made up of complex terms, it is called a *complex proposition*; as, *Every sincere penitent is pardoned: Virtue is desireable for its own sake: No man alive is perfectly innocent.*

If the term which is added to the subject of a complex proposition be either essential or any way necessary to it, then it is called *explicative*, for it only explains the subject; as, *Every mortal man is a son of Adam.* But, if the term added to make up the complex subject does not necessarily or constantly belong to it, then it is *determinative*, and limits the subject to a particular part of its extension; as, *Every*

* As *simple* ideas are opposed to *complex*, and *single* ideas to *compound*, so propositions are distinguished in the same manner: The English tongue, in this respect, having some advantage above the learned languages, which have no usual word to distinguish *single* from *simple*.

Every pious man ſhall be happy. In the firſt propoſition the word *mortal* is merely explicative: In the ſecond propoſition the word *pious* is determinative.

Here note, that whatſoever may be affirmed or denied concerning any ſubject, with an explicative addition, may be alſo affirmed or denied of that ſubject without it; as we may boldly ſay, Every man is a ſon of Adam, as well as every mortal man: But it is not ſo, where the addition is determinative, for we cannot ſay, Every man ſhall be happy, though every pious man ſhall be ſo.

In a complex propoſition, the predicate or ſubject is ſometimes made complex by the pronouns who, which, whoſe, to whom, &c. which make another propoſition; as, Every man who is pious ſhall be ſaved: Julius, whoſe ſirname was Cæſar, overcame Pompey: Bodies, which are tranſparent, have many pores. Here the whole propoſition is called the primary or chief, and the additional propoſition is called an incident propoſition. But it is ſtill to be eſteemed in this caſe merely as a part of the complex term; and the truth or falſhood of the whole complex propoſition is not to be judged by the truth or falſhood of the incident propoſition, but by the connection of the whole ſubject with the predicate. For the incident propoſition may be falſe, and abſurd, or impoſſible, and yet the whole complex propoſition may be true; as, A horſe which has wings might fly over the Thames.

Beſide this complexion which belongs to the ſubject or predicate, logical writers uſe to ſay, there is a complexion which may fall upon the copula alſo: But this I have accounted for in the ſection concerning modal propoſitions; and indeed it is not of much importance whether it were placed there or here.

SECT. VI.

Of Compound PROPOSITIONS.

A Compound propoſition is made up of two or more ſubjects or predicates, or both; and it contains in it two or more propoſitions, which are either plainly expreſſed, or concealed and implied.

The firſt ſort of compound propoſitions are thoſe wherein the compoſition is expreſſed and evident, and they are diſtinguiſhed into theſe ſix kinds, namely, copulative, disjunctive, conditional, cauſal, relative and diſcretive.

I. Copulative propoſitions, are thoſe which have more ſubjects or predicates connected by affirmative or negative conjunctions; as, *Riches and honour are temptations to pride: Cæſar conquered the Gauls and the Britons: Neither gold or jewels will purchaſe immortality.* Theſe propoſitions are evidently compounded, for each of them may be reſolved into two propoſitions, namely, *Riches are temptations to pride;* and *Honour is a temptation to pride;* and ſo the reſt.

The truth of copulative propoſitions depends upon the truth of all the parts of them; for, if Cæſar had conquered the Gauls, and not the Britons, or the Britons, and not the Gauls, the ſecond copulative propoſition had not been true.

Here note, Thoſe propoſitions, which cannot be reſolved into two or more ſimple propoſitions, are not properly copulative, though two or more ideas be connected and coupled by ſuch conjunctions, either in the ſubject or predicate; as *Two and three make five: Majeſty and meekneſs do not often meet: The ſun, moon, and ſtars, are not all to be ſeen at once.* Such propoſitions are to be eſteemed merely complex, becauſe the predicate cannot be affirmed of each ſingle ſubject, but only of all of them together as a collective ſubject.

II.

II. *Disjunctive propoſitions*, are when the parts are disjoined or oppoſed to one another by disjunctive particles; as, *It is either day or night: The weather is* either *ſhining* or *rainy: Quantity is* either *length*, *breadth*, or *depth*.

The truth of *disjunctives* depends on the neceſſary and immediate oppoſition of the parts; therefore only the laſt of theſe examples is true; but the two firſt are not ſtrictly true, becauſe *twilight* is a medium between *day* and *night*; and *dry cloudy weather* is a medium between *ſhining* and *raining*.

III. *Conditional* or *hypothetical propoſitions*, are thoſe whoſe parts are united by the conditional particle *if*; as, If *the ſun be fixed, the earth muſt move*: If *there be no fire, there will be no ſmoke*.

Note, The firſt part of theſe propoſitions, or that wherein the conditional is contained, is called the *antecedent*, the other is called the *conſequent*.

The truth of theſe propoſitions depends not at all on the truth or falſhood of their two parts, but on the truth of the *connection* of them; for each part of them may be falſe, and yet the whole propoſition true; as, *If there be no providence, there will be no future puniſhment*.

IV. *Cauſal propoſitions*, are where two propoſitions are joined by cauſal particles; as, *Houſes were not built that they might be deſtroyed: Rehoboam was unhappy* becauſe *he followed evil counſel*.

The truth of a *cauſal propoſition* ariſes not from the truth of the parts, but from the *cauſal influence* that the one part has upon the other; for both parts may be true, yet the propoſition falſe, if one part be not the cauſe of the other.

Some logicians refer *reduplicative propoſitions* to this place, as *Men, conſidered as men, are rational creatures*, that is, becauſe *they are men*.

V. *Relative propoſitions* have their parts joined by ſuch particles as expreſs a relation or compariſon of one thing to another; as, *When your are ſilent*

I will ſpeak: As much as you are worth, ſo much ſhall you be eſteemed: As is the father, ſo is the ſon: Where there is no tale-bearer, contention will ceaſe.

Theſe are very much akin to *conditional* propoſitions, and the truth of them depends upon the juſtneſs of their *connection.*

VI. *Diſcretive propoſitions* are ſuch wherein various and ſeemingly oppoſite judgments are made, whoſe variety or diſtinction is noted by the particles, *but, though, yet, &c.*; as, *Travellers may change their climate, but not their temper: Job was patient, though his grief was great.*

The truth and goodneſs of a *diſcretive propoſition* depends on the truth of both parts, and their contradiſtinction to one another; for, though both parts ſhould be true, yet if there be no ſeeming oppoſition between them, it is an uſeleſs aſſertion, though we cannot call it a falſe one; as, *Deſcartes was a philoſopher, yet he was a Frenchman: The Romans were valiant, but they ſpoke Latin;* both which propoſitions are ridiculous, for want of a ſeeming oppoſition between the parts.

Since we have declared wherein the *truth* and *falſhood* of theſe *compound propoſitions* conſiſt, it is proper alſo to give ſome intimations how any of theſe propoſitions, when they are falſe, may be *oppoſed* or *contradicted.*

All compound propoſitions, except *copulatives* and *diſcretives,* are properly denied or contradicted when the negation affects their conjunctive particles; as, if the disjunctive propoſition aſſerts, *It is either day or night;* the opponent ſays, *It is not either day or night;* or, *It is not neceſſary that it ſhould be either day or night:* ſo the *hypothetical* propoſition is denied, by ſaying, *It does not follow that the earth muſt move if the ſun be fixt.*

A *disjunctive propoſition* may be contradicted alſo by denying all the parts; as, *It is neither day nor night.*

And

And a *cauſal propoſition* may be denied or oppoſed *indirectly* and *improperly*, when either part of the propoſition is denied; and it muſt be falſe if either part be falſe: But the deſign of the propoſition being to ſhew the *cauſal connection* of the two parts, each part is ſuppoſed to be true, and it is not properly contradicted as a *cauſal propoſition*, unleſs one part of it be denied to be the cauſe of the other.

As for *copulatives* and *diſcretives*, becauſe their truth depends more on the truth of their parts, therefore theſe may be oppoſed or denied, as many ways as the parts of which they are compoſed may be denied; ſo this copulative propoſition, *Riches and honour are temptations to pride*, may be denied by ſaying, *Riches are not temptations, though honour may be:* or, *Honour is not a temptation, though riches may be;* or, *Neither riches nor honour are temptations*, &c.

So this *diſcretive* propoſition, *Job was patient, though his grief was great*, is denied by ſaying, *Job was not patient, though his grief was great:* or, *Job was patient, but his grief was not great:* or, *Job was not patient, nor was his grief great.*

We proceed now to the *ſecond ſort* of *compound* propoſitions, namely, ſuch *whoſe compoſition is not expreſſed, but latent or concealed;* yet a ſmall attention will find two propoſitions included in them. Such are theſe that follow.

1. Excluſives; as, *The pious man alone is happy. It is only Sir Iſaac Newton could find out true philoſophy.*

2. Exceptives; as, *None of the ancients but Plato well defended the ſoul's immortality. The Proteſtants worſhip none but God.*

3. Comparatives; as, *Pain is the greateſt affliction. No Turk was fiercer than the Spaniards at Mexico.*

Here *note*, That the *comparative* degree does not always imply the *poſitive;* as, if I ſay, *A fool is better than a knave*, this does not affirm that *folly is good*, but that it is a *leſs evil* than knavery.

4. *Inceptives* and *deſitives*, which relate to the beginning or ending of any thing; as, *The Latin tongue is not yet forgotten. No man before Orpheus wrote Greek verſe. Peter Czar of Muſcovy began to civilize his nation.*

To theſe may be added *continuatives*; as, *Rome remains to this day*, which includes at leaſt two propoſitions, namely, *Rome was*, and *Rome is*.

Here let other authors ſpend time and pains in giving the preciſe definitions in all theſe ſorts of propoſitions which may be as well underſtood by their names and examples: Here let them tell what their truth depends upon, and how they are to be oppoſed or contradicted; but a moderate ſhare of common ſenſe, with a review of what is ſaid on the former *compounds*, will ſuffice for all theſe purpoſes, without the formality of rules.

SECT. VII.

Of True and Falſe Propoſitions.

PRopoſitions are next to be conſidered according to their *ſenſe* or *ſignification*, and thus they are diſtributed into *true* and *falſe*. A *true propoſition* repreſents things as they are in themſelves; but, if things are repreſented otherwiſe than they are in themſelves, the propoſition is *falſe*.

Or we may deſcribe them more particularly thus: a *true propoſition* joins thoſe ideas and terms together whoſe objects are joined and agree; or it diſjoins thoſe ideas and terms whoſe objects diſagree, or are disjoined; as, *Every bird has wings: A brute is not immortal.*

A *falſe propoſition* joins thoſe ideas or terms whoſe objects diſagree, or it disjoins thoſe whoſe objects agree; as, *Birds have no wings: Brutes are immortal.*

Note, It is impoſſible that the ſame propoſition ſhould be both true and falſe at the ſame time, in the

the ſame ſenſe, and in the ſame reſpect; becauſe a propoſition is but the repreſentation of the agreement or diſagreement of things: Now *it is impoſſible that the ſame thing ſhould be and not be*, or *that the ſame thing ſhould agree and not agree, at the ſame time, and in the ſame reſpect.* This is a firſt principle of human knowledge.

Yet ſome propoſitions may ſeem to contradict one another, though they may be both true, but in different ſenſes, or reſpects, or times; as, *Man was immortal in paradiſe*, and *Man was mortal in paradiſe.* But theſe two propoſitions muſt be referred to different times; as, Man *before his fall* was immortal, but *at the fall* he became mortal. So we may ſay now, *Man is mortal*, or *man is immortal*, if we take theſe propoſitions in different reſpects; as *Man is* an immortal creature *as to his ſoul*, but mortal *as to his body.* A great variety of difficulties and ſeeming contradictions, both in Holy Scripture, and other writings, may be ſolved and explained in this manner.

The moſt important queſtion on this ſubject is this, *What is the criterion, or diſtinguiſhing mark of truth?* How ſhall we know when a propoſition is really true or falſe? There are ſo many diſguiſes of truth in the world, ſo many falſe appearances of truth, that ſome ſects have declared there is no poſſibility of diſtinguiſhing *truth* from *falſhood*; and therefore they have abandoned all pretences to knowledge, and maintain ſtrenuouſly that *nothing is to be known.*

The firſt men of this humour made themſelves famous in Greece by the name of *ſceptics*, that is, *ſeekers*: They were alſo called *academics*, borrowing their name from *academia*, their ſchool or place of ſtudy. They taught that *all things are uncertain*, though they allowed that ſome are more probable than others. After theſe aroſe the ſect of *Pyrrhonics*, ſo named from *Pyrrho* their maſter, who

would not allow one propoſition to be more probable than another; but profeſſed that *all things were equally uncertain.* Now all theſe men (as an ingenious author expreſſes it) were rather to be called a ſect of *liars* than *philoſophers*, and that cenſure is juſt for two reaſons: (1.) Becauſe they determined concerning every propoſition that *it was uncertain*, and believed that as a certain truth, while they profeſſed *there was nothing certain*, and that nothing could be determined concerning truth or falſhood; and thus their very doctrine gave itſelf the lie. (2.) Becauſe they judged and acted as other men did in the common affairs of life; they would neither run into fire nor water, though they profeſſed ignorance and uncertainty, whether the one would burn, or the other drown them.

There have been ſome in all ages who have too much affected this humour, who diſpute againſt every thing, under pretence that *truth has no certain mark to diſtinguiſh it.* Let us therefore inquire *what is the general criterion of truth?* And, in order to this, it is proper to conſider what is the reaſon why we aſſent to thoſe propoſitions which contain the moſt certain and indubitable truths, ſuch as theſe, *The whole is greater than a part; Two and three make five.*

The only reaſon why we believe theſe propoſitions to be true, is becauſe the ideas of the ſubjects and predicates appear with ſo much clearneſs and ſtrength of evidence to agree to each other, that the mind cannot help decerning the agreement, and cannot doubt of the truth of them, but is conſtrained to judge them true. So, when we compare the ideas of a *circle* and a *triangle*, or the ideas of an *oyſter* and a *butterfly*, we ſee ſuch an evident diſagreement between them, that we are ſure that a *butterfly is not an oyſter*, nor is a *triangle a circle.* There is nothing but the evidence of the agreement or diſ-

agreement

agreement between two ideas that makes us affirm or deny the one or the other.

Now it will follow from hence, that a *clear and diſtinct perception or full evidence of the agreement and diſagreement of our ideas to one another, or to things*, is a certain criterion of truth: For, ſince our minds are of ſuch a make, that where the evidence is exceeding plain and ſtrong, we cannot withhold our aſſent; we ſhould then be neceſſarily expoſed to believe falſhood, if complete evidence ſhould be found in any propoſitions that are not true. But ſurely the God of perfect wiſdom, truth, and goodneſs, would never oblige his creatures to be thus deceived; and therefore he would never have conſtituted us of ſuch a frame as would render it naturally impoſſible to guard againſt error.

Another conſequence is naturally derived from the former, and that is, that the only reaſon why we fall into miſtake, is becauſe we are impatient to form a judgment of things before we have a clear and evident perception of their agreement or diſagreement; and, if we will make haſte to judge while our ideas are obſcure and confuſed, or before we ſee whether they agree or diſagree, we ſhall plunge ourſelves into perpetual errors. See more on this ſubject in an *Eſſay on the Freedom of will in God and Man*, publiſhed in 1732, ſection 1. page 13.

Note, What is here aſſerted concerning the neceſſity of clear and diſtinct ideas, refers chiefly to propoſitions which we form *ourſelves* by our own powers: As for propoſitions which we derive from the teſtimony of others, they will be accounted for in Chap IV.

SECT.

SECT. VIII.

Of Certain and Dubious Propoſitions of Knowledge and Opinion.

SINCE we have found that evidence is the great criterion, and the ſure mark of truth, this leads us directly to conſider propoſitions according to their evidence; and here we muſt take notice both of the different degrees of evidence, and the different kinds of it.

Propoſitions, according to their different degrees of evidence, are diſtinguiſhed into certain and dubious *.

Where the evidence of the agreement or diſagreement of the ideas is ſo ſtrong and plain, that we cannot forbid nor delay our aſſent, the propoſition is called *certain*; as, *Every circle hath a centre; The world did not create itſelf.* An aſſent to ſuch propoſitions is honoured with the name of *knowledge.*

But, when there is any obſcurity upon the agreement or diſagreement of the ideas, ſo that the mind does not clearly perceive it, and is not compelled to aſſent or diſſent, then the propoſition, in a proper and philoſophical ſenſe, is called doubtful or

* It may be objected, that this certainty and uncertainty being only in the mind, the diviſion belongs to propoſitions rather, according to the degrees of our aſſent, than the degrees of evidence. But it may be well anſwered, that the evidence here intended is that which appears ſo to the mind, and not the mere evidence in the nature of things. Beſides, (as we ſhall ſhew immediately), the degree of aſſent ought to be exactly proportionable to the degree of evidence: And therefore the difference is not great, whether propoſitions be called certain or uncertain, according to the meaſure of evidence, or of aſſent.

or *uncertain*; as, *The planets are inhabited*; *The ſouls of brutes are mere matter*; *The world will not ſtand a thouſand years longer*; *Dido built the city of Carthage*, &c. Such *uncertain* propoſitions are called *opinions*.

When we conſider ourſelves as philoſophers, or *ſearchers after truth*, it would be well if we always ſuſpended a full judgment or determination about any thing, and made farther inquiries, where this plain and *perfect evidence* is wanting; but we are ſo prone of ourſelves to judge without full evidence, and in ſome caſes the neceſſity of action in the affairs of life conſtrains us to judge and determine upon a tolerable *degree* of evidence, that we vulgarly call thoſe propoſitions *certain*, where we have but very little room or reaſon to doubt of them, though the evidence be not complete and reſiſtleſs.

Certainty, according to the ſchools, is diſtinguiſhed into *objective* and *ſubjective*. *Objective certainty*, is when the propoſition is certainly true in itſelf; and *ſubjective*, when we are certain of the truth of it. The one is in *things*, the other is in our *minds*.

But let it be obſerved here, that every propoſition in itſelf is certainly true or certainly falſe. For, though doubtfulneſs or uncertainty ſeems to be a medium between certain truth and certain falſhood in our minds, yet there is no ſuch medium in things themſelves, no, not even in future events: For now at this time it is certain in itſelf, that midſummer-day ſeven years hence will be ſerene, or it is certain it *will be cloudy*, tho' we are uncertain and utterly ignorant what ſort of day it will be: This certainty of diſtant futurities is known to God only.

Uncertain or dubious propoſitions, that is, opinions, are diſtinguiſhed into probable, or improbable.

When the evidence of any propoſition is greater than the evidence of the contrary, then it is a probable opinion: Where the evidence and arguments are ſtronger on the contrary ſide, we call it improbable. But, while the arguments on either ſide ſeem

to

to be equally ſtrong, and the evidence for and againſt any propoſition appears equal to the mind, then in common language we call it a doubtful matter. We alſo call it a dubious or doubtful propoſition, when there are no arguments on either ſide, as, Next Chriſtmas-day will be a very ſharp froſt. And in general, all thoſe propoſitions are doubtful, wherein we can perceive no ſufficient marks or evidences of truth or falſhood. In ſuch a caſe, the mind which is ſearching for truth ought to remain in a ſtate of doubt or ſuſpenſe, until ſuperior evidence on one ſide or the other incline the balance of the judgment, and determine the probability or certainty to the one ſide.

A great many propoſitions which we generally believe or miſbelieve in human affairs, or in the ſciences, have very various degrees of evidence, which yet ariſe not to complete *certainty*, either of truth or falſhood. Thus it comes to paſs that there are ſuch various and almoſt infinite degrees of probability and improbability. To a weak probability we ſhould give a weak aſſent; and a ſtronger aſſent is due where the evidence is greater, and the matter more probable. If we proportion our aſſent in all things to the degrees of evidence, we do the utmoſt that human nature is capable of in a rational way to ſecure itſelf from error.

SECT. IX.

Of Senſe, Conſciouſneſs, Intelligence, Reaſon, Faith, and Inſpiration.

AFTER we have conſidered the *evidence* of propoſitions in the various degrees of it, we come to ſurvey the ſeveral kinds of evidence, or the different ways whereby truth is let into the mind, and which produce accordingly ſeveral kinds of knowledge. We ſhall diſtribute them into theſe ſix;

ſix; namely, Senſe, Conſciouſneſs, Intelligence, Reaſon, Faith, and Inſpiration; and then diſtinguiſh the propoſitions which are derived from them.

I. The evidence of ſenſe is, when we frame a propoſition according to the dictates of any of our ſenſes; ſo we judge that graſs is green; that a trumpet gives a pleaſant ſound; that fire burns wood; water is ſoft, and iron is hard; for we have ſeen, heard or felt all theſe. It is upon this evidence of ſenſe, that we know and believe the dayly occurences in human life; and almoſt all the hiſtories of mankind, that are written by eye or ear witneſſes, are built upon this principle.

Under the evidence of ſenſe we do not only include that knowledge which is derived to us by our outward ſenſes of hearing, ſeeing, feeling, taſting, and ſmelling; but that alſo which is derived from the inward ſenſations and appetites of hunger, thirſt, eaſe, pleaſure, pain, wearineſs, reſt, &c. and all thoſe things which belong to the body; as *Hunger is a painful appetite; Light is pleaſant; Reſt is ſweet to the weary limbs.*

Propoſitions which are built on this evidence, may be named ſenſible propoſitions, or the dictates of ſenſe.

II. As we learn what belongs to the body by the evidence of ſenſe, ſo we learn what belongs to the ſoul by an inward conſciouſneſs, which may be called a ſort of internal feeling, or ſpiritual ſenſation of what paſſes in the mind; as, I think before I ſpeak; I deſire large knowledge; I ſuſpect my own practice; I ſtudied hard to-day; My conſcience bears witneſs of my ſincerity; My ſoul hates vain thoughts; Fear is an uneaſy paſſion; Long meditation on one thing is tireſome.

Thus it appears that we obtain the knowledge of a multitude of propoſitions, as well as of ſingle ideas, by thoſe two principles which Mr Locke calls ſenſation and reflection: One of them is a ſort of conſciouſneſs

ſciouſneſs of what affects the body, and the other is a conſciouſneſs of what paſſes in the mind.

Propoſitions which are built on this internal conſciouſneſs, have yet no particular or diſtinguiſhing name aſſigned to them.

III. Intelligence relates chiefly to thoſe abſtracted propoſitions which carry their own evidence with them, and admit no doubt about them. Our perception of this ſelf-evidence in any propoſition is called intelligence. It is our knowledge of thoſe firſt principles of truth which are, as it were, wrought into the very nature and make of our minds: They are ſo evident in themſelves to every man who attends to them, that they need no proof. It is the prerogative and peculiar excellence of theſe propoſitions that they can ſcarce either be proved or denied: They cannot eaſily be proved, becauſe there is nothing ſuppoſed to be more clear or certain, from which an argument may be drawn to prove them. They cannot well be denied, becauſe their own evidence is ſo bright and convincing, that as ſoon as the terms are underſtood the mind neceſſarily aſſents; ſuch are theſe, Whatſoever acteth hath a being; Nothing has no properties; A part is leſs than the whole; Nothing can be the cauſe of itſelf.

Theſe propoſitions are called axioms, or maxims, or firſt principles; theſe are the very foundations of all improved knowledge and reaſonings, and on that account theſe have been thought to be intimate propoſitions, or truths born with us.

Some ſuppoſe that a great part of the knowledge of angels and human ſouls in the ſeparate ſtate is obtained in this manner, namely, by ſuch an immediate view of things in their own nature, which is called intuition.

IV. Reaſoning is the next ſort of evidence, and that is, when one truth is inferred or drawn from others by natural and juſt methods of argument; as, if there be much light at midnight, I infer, it

proceeds

proceeds from the moon; becauſe the ſun is under the earth * If I ſee a cottage in a foreſt, I conclude, ſome man has been there and built it. Or when I ſurvey the heavens and earth, this gives evidence to my reaſon, that there is a God who made them.

The propoſitions which I believe upon this kind of evidence, are called concluſions, or rational truths; and the knowledge that we gain this way is properly called ſcience.

Yet let it be noted, that the word ſcience is uſually applied to a whole body of regular and methodical obſervations or propoſitions, which learned men have formed concerning any ſubject of ſpeculation, deriving one truth from another by a train of arguments. If this knowledge chiefly directs our practice, it is uſually called an art. And this is the moſt remarkable diſtinction between an art and a ſcience, namely, the one refers chiefly to practice, the other to ſpeculation. Natural philoſophy, or phyſics, and ontology, are ſciences; logic and rhetoric are called arts; but mathematics include both art and ſcience; for they have much of ſpeculation, and much of practice in them.

Obſerve here, That, when the evidence of a propoſition derived from ſenſe, conſciouſneſs, intelligence, or reaſon, is firm and indubitable, it produces ſuch aſſent as we call a natural certainty.

V. When we derive the evidence of any propoſition from the teſtimony of others, it is called the evidence of faith; and this is a large part of our knowledge. Ten thouſand things there are which we believe merely upon the authority or credit of thoſe who have ſpoken or written of them. It is by this evidence that we know there is ſuch a country as China, and there was ſuch a man as Cicero who dwelt

* Note, Since this book was written, we have had ſo many appearances of the aurora borealis as reduces this inference only to a probability.

dwelt in Rome. It is by this that moſt of the tranſactions in human life are managed: We know our parents and our kindred by this means; we know the perſons and laws of our preſent governors, as well as things that are at a vaſt diſtance from us in foreign nations, or in ancient ages.

According as the perſons that inform us of any thing are many or few, or more or leſs wiſe, and faithful, and credible, ſo our faith is more or leſs firm or wavering, and the propoſition believed is either certain or doubtful; but in matters of faith, an exceeding great probability is called a moral certainty.

Faith is generally diſtinguiſhed into divine and human, not with regard to the propoſitions that are believed, but with regard to the teſtimony upon which we believe them. When God reveals any thing to us, this gives us the evidence of divine faith; but what man only acquaints us with, produces a human faith in us; the one being built upon the word of man, ariſes but to moral certainty; but the other being founded on the word of God, ariſes to an abſolute and infallible aſſurance, ſo far as we underſtand the meaning of this word. This is called ſupernatural certainty.

Propoſitions which we believe upon the evidence of human teſtimony are called narratives, relations, reports, hiſtorical obſervations, &c. but ſuch as are built on divine teſtimony, are termed matters of revelation; and, if they are of great importance in religion, they are called articles of faith.

There are ſome propoſitions or parts of knowledge, which are ſaid to be derived from obſervation and experience, that is experience in ourſelves, and the obſervations we have made on other perſons or things; but theſe are made up of ſome of the former ſprings of knowledge joined together, namely, ſenſe, conſciouſneſs, reaſon, faith, &c. and therefore are no reckoned a diſtinct kind of evidence.

VI. Inſpiration is a ſort of evidence diſtinct from all

all the former, and that is, when ſuch an overpowering impreſſion of any propoſition is made upon the mind by God himſelf, that gives a convincing and indubitable evidence of the truth and divinity of it: So were the prophets and the apoſtles inſpired *.

Sometimes God may have been pleaſed to make uſe of the outward ſenſes, or the inward workings of the imagination, of dreams, apparitions, viſions, and voices, or reaſoning, or perhaps human narration, to convey divine truths to the mind of the prophet; but none of theſe would be ſufficient to deſerve the name of inſpiration, without a ſuperior or divine light and power attending them.

This ſort of evidence is alſo very diſtinct from what we uſually call divine faith; for every common Chriſtian exerciſes divine faith when he believes any propoſition which God has revealed in the bible upon this account, becauſe God has ſaid it, though it was by a train of reaſonings that he was led to believe that this is the word of God. Whereas in the caſe of inſpiration, the prophet not only excerciſes divine faith in believing what God reveals, but he is under a ſuperior heavenly impreſſion, light and evidence, whereby he is aſſured that God reveals it. This is the moſt eminent kind of ſupernatural certainty.

Though perſons might be aſſured of their own inſpiration, by ſome peculiar and inexpreſſible conſciouſneſs of this divine inſpiration and evidence in their own ſpirits, yet it is hard to make out this inſpiration to others, and to convince them of it, except by ſome antecedent or conſequent prophecies or miracles, or ſome public appearances more than human.

The propoſitions which are attained by this ſort of evidence are called inſpired truths. This is divine revelation at firſt hand, and the dictates of God in an

* Note here, I ſpeak chiefly of the higheſt kind of inſpiration.

an immediate manner, of which theological writers diſcourſe at large: But ſince it belongs only to a few favourites of heaven to be inſpired, and not the bulk of mankind, it is not neceſſary to ſpeak more of it in a treatiſe of logic, which is deſigned for the general improvement of human reaſon.

The various kinds of evidence upon which we believe any propoſition, afford us theſe three remarks:

Remark I. The ſame propoſition may be known to us by the different kinds of evidence: That the whole is bigger than a part, is known by our ſenſes, and it is known by the ſelf-evidence of the thing to our mind. That God created the heavens and the earth is known to us by reaſon, and is known alſo by divine teſtimony or faith.

Remark II. Among thoſe various kinds of evidence, ſome are generally ſtronger than others in their own nature, and give a better ground for certainty. Inward conſciouſneſs and intelligence, as well as divine faith and inſpiration, uſually carry much more force with them than ſenſe or human faith, which are often fallible; though there are inſtances wherein human faith, ſenſe, and reaſoning, lay a foundation alſo for complete aſſurance, and leave no room for doubt.

Reaſon in its own nature would always lead us into the truth in matters within its compaſs, if it were uſed aright, or it would require us to ſuſpend our judgment where there is a want of evidence. But it is our ſloth, precipitancy, ſenſe, paſſion, and many other things, that lead our reaſon aſtray in this degenerate and imperfect ſtate: Hence it comes to paſs that we are guilty of ſo many errors in reaſoning, eſpecially about divine things, becauſe our reaſon either is buſy to inquire, and reſolved to determine about matters that are above our preſent reach; or becauſe we mingle many prejudices and ſecret influences of ſenſe, fancy, paſſion, inclination, &c. with our exerciſes

exerciſes of reaſon, and judge and determine according to their irregular inſtances.

Divine faith would never admit of any controverſies or doubtings, if we were but aſſured that God had ſpoken, and that we rightly underſtood his meaning.

Remark III. The greateſt evidence and certainty of any propoſition does not depend on the variety of the ways or kinds of evidence whereby it is known, but rather upon the ſtrength and degree of evidence, and the clearneſs of that light in or by which it appears to the mind. For a propoſition that is known only one way may be much more certain, and have ſtronger evidence, than another that is ſuppoſed to be known many ways. Therefore theſe propoſitions, Nothing has no properties; Nothing can make itſelf; which are known only by intelligence, are much ſurer than this propoſition, The rainbow has real and inherent colours in it; or than this, The ſun rolls round the earth; though we ſeem to know both theſe laſt by our ſenſes, and by the common teſtimony of our neighbours. So any propoſition that is clearly evident to our own *conſciouſneſs* or *divine faith*, is much more certain to us than a thouſand others that have only the evidence of feeble and obſcure ſenſations of mere probable reaſonings and doubtful arguments, or the *witneſs* of fallible *men*, or even though all theſe ſhould join together.

CHAP.

CHAP. III.

The Springs of falſe Judgment, or the Doctrine of Prejudices.

INTRODUCTION.

IN the end of the foregoing chapter, we have ſurveyed the ſeveral ſorts of evidence on which we build our aſſent to propoſitions. Theſe are indeed the general grounds upon which we form our judgments concerning things. What remains in this SECOND PART OF LOGIC is to point out the ſeveral ſprings and cauſes of our miſtakes in judging, and to lay down ſome rules by which we ſhould conduct ourſelvès in paſſing a judgment upon every thing that is propoſed to us.

I confeſs many things which will be mentioned in theſe following chapters, might be as well referred to the THIRD PART OF LOGIC, where we ſhall treat of Reaſoning and Argument; for moſt of our falſe judgments ſeem to include a ſecret bad reaſoning in them; and while we ſhew the ſprings of error, and the rules of true judgment, we do at the ſame time diſcover which arguments are fallacious, which reaſonings are weak, and which are juſt and ſtrong. Yet ſince this is uſually called a judging ill, or judging well, I think we may without any impropriety treat of it here; and this will lay a ſurer foundation for all ſorts of ratiocination and argument.

Raſh judgments are called prejudices, and ſo are the ſprings of them. This word in common life ſignifies an ill opinion which we have conceived of ſome other perſon, or ſome injury done to him. But when we uſe the word in matters of ſcience, it ſignifies a judgment that is formed concerning any perſon or thing before ſufficient examination; and generally we ſuppoſe

poſe it to mean a falſe judgment or miſtake: At leaſt, it is an opinion taken up without ſolid reaſon for it, or an aſſent given to a propoſition before we have juſt evidence of the truth of it, though the thing itſelf may happen to be true.

Sometimes theſe raſh judgments are called prepoſſeſſions; whereby is meant, that ſome particular opinion has poſſeſſed the mind, and engaged the aſſent, without ſufficient ſearch or evidence of the truth of it.

There is a vaſt variety of theſe prejudices and prepoſſeſſions which attend mankind in every age and condition of life; they lay the foundations of many an error, and many an unhappy practice, both in the affairs of religion, and in our civil concernments; as well as in matters of learning. It is neceſſary for a man who purſues truth to inquire into theſe ſprings of error, that as far as poſſible he may rid himſelf of old prejudices, and watch hourly againſt new ones.

The number of them is ſo great, and they are ſo interwoven with each other, as well as with the powers of human nature, that it is ſometimes hard to diſtinguiſh them apart; yet for method's ſake we ſhall reduce them to theſe four general heads, namely, prejudices ariſing from things, or from words, from ourſelves, or from other perſons; and, after the deſcription of each prejudice, we ſhall propoſe one or more ways of curing it.

SECT. I.

Prejudices ariſing from Things.

THE firſt ſort of prejudices are thoſe which ariſe from the things themſelves about which we judge. But here let it be obſerved, that there is nothing in the nature of things that will neceſſarily lead us into error, if we do but uſe our reaſon aright, and withhold our judgment till there appears ſufficient evi-

dence of truth. But ſince we are ſo unhappily prone to take advantage of every doubtful appearance and circumſtance of things to form a wrong judgment, and plunge ourſelves into miſtake, therefore it is proper to conſider what there is in the things themſelves that may occaſion our errors.

I. The obſcurity of ſome truths, and the difficulty of ſearching them out, is one occaſion of raſh and miſtaken judgment.

Some truths are difficult becauſe they lie remote from the firſt principles of knowledge, and want a long chain of argument to come at them: Such are many of the deep things of algebra and geometry, and ſome of the theorems and problems of moſt parts of the mathematics. Many things alſo in natural philoſophy are dark and intricate upon this account, becauſe we cannot come at any certain knowledge of them without the labour of many and difficult, as well as chargeable experiments.

There are other truths which have great darkneſs upon them, becauſe we have no proper means or mediums to come at the knowledge of them. Though in our age we have found out many of the deep things of nature, by the aſſiſtance of glaſſes and other inſtruments; yet we are not hitherto arrived at any ſufficient methods to diſcover the ſhape of thoſe little particles of matter which diſtinguiſh the ſeveral ſapours, odours, and colours of bodies; nor to find what ſort of atoms compoſe liquids or ſolids, and diſtinguiſh wood, minerals, metals, glaſs, ſtone, &c. There is a darkneſs alſo lies upon the actions of the intellectual or angelical world; their manners of ſubſiſtence and agency, the power of ſpirits to move bodies, and the union of our ſouls with this animal body of ours, are much unknown to us on this account.

Now, in many of theſe caſes, a great part of mankind is not content to be entirely ignorant; but they rather chooſe to form raſh and haſty judgments,

ments, to gueſs at things without juſt evidence, to believe ſomething concerning them before they can know them; and thereby fall into error.

This ſort of prejudice, as well as moſt others, is cured by patience and diligence in inquiry and reaſoning, and a ſuſpenſion of judgment, till we have attained ſome proper mediums of knowledge, and till we ſee ſufficient evidence of the truth.

II. The appearance of things in a diſguiſe is another ſpring of prejudice, or raſh judgment. The outſide of things, which firſt ſtrikes us, is oftentimes different from their inward nature; and we are tempted to judge ſuddenly according to outward appearances. If a picture is daubed with many bright and glaring colours, the vulgar eye admires it as an excellent piece; whereas the ſame perſon judges very contemptuouſly of ſome admirable deſign, ſketched out only with a black pencil on a coarſe paper, though by the hand of a Raphael. So the ſcholar ſpies the name of a new book in a public news-paper; he is charmed with the title, he purchaſes, he reads with huge expectations, and finds it is all traſh and impertinence: This is a prejudice derived from the appearance; we are too ready to judge that volume valuable which had ſo good a frontiſpiece. The large heap of encomiums and ſwelling words of aſſurance, that are beſtowed on quack medicines in public advertiſements, tempt many a reader to judge them infallible, and to uſe the pills or the plaſter, with vaſt hope, and frequent diſappointment.

We are tempted to form our judgment of perſons as well as things by theſe outward appearances. Where there is wealth, equipage, and ſplendor, we are ready to call that man happy; but we ſee not the vexing diſquietudes of his ſoul: and when we ſpy a perſon in ragged garments, we form a deſpicable opinion of him too ſuddenly; we can hardly think him either happy or wiſe, our judgment is ſo

ſtrangely biaſſed by outward and ſenſible things. It was through the power of this prejudice that the Jews rejected our bleſſed Saviour; they could not ſuffer themſelves to believe that the man who appeared as the ſon of a carpenter was alſo the Son of God. And becauſe St Paul was of little ſtature, a mean preſence, and his voice contemptible, ſome of the Corinthians were tempted to doubt whether he was inſpired or no.

This prejudice is cured by a longer acquaintance with the world, and a juſt obſervation that things are ſometimes better and ſometimes worſe than they appear to be. We ought therefore to reſtrain our exceſſive forwardneſs to form our opinion of perſons or things before we have opportunity to ſearch into them more perfectly. Remember that a grey beard does not make a philoſopher; all is not gold that gliſters; and a rough diamond may be worth an immenſe ſum.

III. A mixture of different qualities in the ſame thing, is another temptation to judge amiſs. We are ready to be carried away by that quality which ſtrikes the firſt or the ſtrongeſt impreſſions upon us, and we judge of the whole object according to that quality, regardleſs of all the reſt; or ſometimes we colour over all the other qualities with that one tincture, whether it be bad or good.

When we have juſt reaſon to admire a man for his virtues, we are ſometimes inclined not only to neglect his weakneſſes, but even to put a good colour upon them, and to think them amiable. When we read a book that has many excellent truths in it, and divine ſentiments, we are tempted to approve not only that whole book, but even all the writings of that author. When a poet, an orator, or a painter, has performed admirably in ſeveral illuſtrious pieces, we ſometimes alſo admire his very errors, we miſtake his blunders for beauties, and are ſo ignorantly fond as to copy after them.

It is this prejudice that has rendered ſo many great

great ſcholars perfect bigots, and inclined them to defend Homer or Horace, Livy or Cicero, in their miſtakes, and vindicate all the follies of their favourite author. It is that tempts ſome great writers to ſupport the ſayings of almoſt all the ancient fathers of the church, and admire them even in their very reveries.

On the other hand, if an author has profeſſed heretical ſentiments in religion, we throw our ſcorn upon every thing he writes, we deſpiſe even his critical or mathematical learning, and will hardly allow him common ſenſe. If a poem has ſome blemiſhes in it, there is a ſet of falſe critics who decry it univerſally, and will allow no beauties there.

This ſort of prejudice is relieved by learning to diſtinguiſh things well, and not to judge in the lump. There is ſcarce any thing in the world of nature or art, in the world of morality or religion, that is perfectly uniform. There is a mixture of wiſdom and folly, vice, and virtue, good and evil, both in men and things. We ſhould remember that ſome perſons have great wit and little judgment; others are judicious, but not witty. Some are good humoured without compliment; other have all the formalities of complaiſance, but no good humour. We ought to know that one man may be vicious and learned, while another has virtue without learning. That many a man thinks admirably well, who has a poor utterance; while others have a charming manner of ſpeech, but their thoughts are trifling and impertinent. Some are good neighbours, and courteous, and charitable towards men, who have no piety towards God; others are truly religious, but of moroſe natural tempers. Some excellent ſayings are found in very ſilly books, and ſome ſilly thoughts appear in books of value. We ſhould neither praiſe nor diſpraiſe by wholeſale, but ſeparate the good from the evil, and judge of them a-

part: The accuracy of a good judgment conſiſts much in making ſuch diſtinctions.

Yet let it be noted too, that in common diſcourſe we uſually denominate perſons and things according to the major part of their character. He is to be called a wiſe man who has but few follies: He is a good philoſopher who knows much of nature, and for the moſt part reaſons well in matters of human ſcience: and that book ſhould be eſteemed well written, which has more of good ſenſe in it than it has of impertinence.

IV. Though a thing be uniform in its own nature, yet the different lights in which it may be placed, and the different views in which it appears to us, will be ready to excite in us miſtaken judgments concerning it. Let an erect cone be placed on a horizontal plane, at a great diſtance from the eye, and it appears a plain triangle; but we ſhall judge that very cone to be nothing but a flat circle if its baſe be obverted towards us. Set a common round plate a little obliquely before our eyes afar off, and we ſhall think it an oval figure: But if the very edge of it be turned towards us, we ſhall take it for a ſtraight line. So when we view the ſeveral folds of a changeable ſilk, we pronounce this part red, and that yellow, becauſe of its different poſition to the light, though the ſilk laid ſmooth in one light appears all of one colour.

When we ſurvey the miſeries of mankind, and think of the ſorrows of millions, both on earth and in hell, the divine government has a terrible aſpect, and we may be tempted to think hardly even of God himſelf: But if we view the profuſion of his bounty and grace among his creatures on earth, or the happy ſpirits in heaven, we ſhall have ſo exalted an idea of his goodneſs as to forget his vengeance. Some men dwell entirely upon the promiſes of his goſpel, and think him all mercy: Others, under a melancholy frame, dwell upon his terrors and his threatenings

threatenings, and are overwhelmed with the thoughts of his ſeverity and vengeance, as though there were no mercy in him.

The true method of delivering ourſelves from this prejudice, is to view a thing on all ſides, to compare all the various appearances of the ſame thing with one another, and let each of them have its full weight in the balance of our judgment, before we fully determine our opinion. It was by this means that the modern aſtronomers came to find out that the planet Saturn hath a flat broad circle round its globe, which is called its ring, by obſerving the different appearances as a narrow or a broader oval, or, as it ſometimes ſeems to be, a ſtraight line, in the different parts of its twenty-nine years revolution through the ecliptic. And, if we take the ſame juſt and religious ſurvey of the great and bleſſed God in all the diſcoveries of his vengeance and his mercy, we ſhall at laſt conclude him to be both juſt and good.

V. The caſual aſſociation of many of our ideas becomes the ſpring of another prejudice or raſh judgment, to which we are ſometimes expoſed. If in our younger years we have taken medicines that have been nauſeous, when any medicine whatſoever is afterward propoſed to us under ſickneſs, we immediately judge it nauſeous: Our fancy has ſo cloſely joined theſe ideas together, that we know not how to ſeparate them: Then the ſtomach feels the diſguſt, and perhaps refuſes the only drug that can preſerve life. So a child who has been let blood joins the ideas of pain and the ſurgeon together, and he hates the ſight of the ſurgeon becauſe he thinks of his pain: Or if he has drank a bitter potion, he conceives a bitter idea of the cup which held it, and will drink nothing out of that cup.

It is for the ſame reaſon that the bulk of the common people are ſo ſuperſtitiouſly fond of the pſalms tranſlated by Hopkins and Sternhold, and

think them ſacred and divine, becauſe they have been now for more than an hundred years bound up in the ſame covers with our bibles.

The beſt relief againſt this prejudice of aſſociation is to conſider, whether their be any natural and neceſſary connection between theſe ideas, which fancy, cuſtom, or chance, hath thus joined together; and if nature has not joined them, let our judgment correct the folly of our imagination, and ſeparate theſe ideas again.

SECT. II.

Prejudices ariſing from Words.

OUR ideas aud words are ſo linked together, that while we judge of things according to words, we are led into ſeveral miſtakes. Theſe may be diſtributed under two general heads, namely, ſuch as ariſe from ſingle words or phraſes, or ſuch as ariſe from words joined in ſpeech, and compoſing a diſcourſe.

I. The moſt imminent and remarkable errors of the firſt kind are theſe three. (1) When our words are inſignificant, and have no ideas; as when the myſtical divines talk of the prayer of ſilence, the ſupernatural and paſſive night of the ſoul, the vicinity of powers, the ſuſpenſion of all thoughts: Or (2) When our words are equivocal, and ſignify two or more ideas, as the words law, light, fleſh, ſpirit, righteouſneſs, and many other terms in ſcripture: Or (3) When two or three words are ſynonymous, and ſignify one idea, as regeneration and new creation in the New Teſtament; both which mean only a change of the heart from ſin to holineſs; or, as the Elector of Cologn and the Biſhop of Cologn are two titles of the ſame man.

Theſe kinds of phraſes are the occaſion of various miſtakes; but none ſo unhappy as thoſe in theology: For both words without ideas, as well as ſynonymous

nymous and equivocal words, have been uſed and abuſed by the humours, paſſions, intereſts, or by the real ignorance and weakneſs of men, to beget terrible conteſts among Chriſtians.

But to relieve us under all thoſe dangers, and to remove theſe ſort of prejudices which ariſe from ſingle words or phraſes, I muſt remit the reader to Part I. chap. IV. where I have treated about words, and to thoſe directions which I have given concerning the definition of names, Part. I. chap. VI. ſect. 3.

II. There is another ſort of falſe judgments or miſtakes which we are expoſed to by words; and that is when they are joined in ſpeech, and compoſe a diſcourſe; and here we are in danger two ways.

The one is, when a man writes good ſenſe, or ſpeaks much to the purpoſe, but he has not a happy and engaging manner of expreſſion. Perhaps he uſes coarſe and vulgar words, or old, obſolete, and unfaſhionable language, or terms, and phraſes that are foreign, latinized, ſcholaſtic, very uncommon, and hard to be underſtood: And this is ſtill worſe, if his ſentences are long and intricate, or the ſound of them harſh and grating to the ear. All theſe indeed are defects in ſtile, and lead ſome nice and unthinking hearers or readers into an ill opinion of all that ſuch a perſon ſpeaks or writes. Many an excellent diſcourſe of our forefathers has had abundance of contempt caſt upon it by our modern pretenders to ſenſe, for want of their diſtinguiſhing between the language and the ideas.

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Theſe kinds of phraſes are the occaſion of various miſtakes; but none ſo unhappy as thoſe in theology: For both words without ideas, as well as ſynonymous

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obſcures or overwhelms the truth, and places ſometimes a groſs falſhood in a more alluring light. The decency of action, the muſic of the voice, the harmony of the periods, the beauty of the ſtile, and all the engaging airs of the ſpeaker, have often charmed the hearers into error, and perſuaded them to approve whatſoever is propoſed in ſo agreeable a manner. A large aſſembly ſtands expoſed at once to the power of theſe prejudices, and imbibes them all. So Cicero and Demoſthenes made the Romans and the Athenians believe almoſt whatſoever they pleaſed.

The beſt defence againſt both theſe dangers, is to learn the ſkill (as much as poſſible) of ſeparating our thoughts and ideas from words and phraſes, to judge of the things in their own natures, and in their natural or juſt relation to one another, abſtracted from the uſe of language, and to maintain a ſteady and obſtinate reſolution, to hearken to nothing but truth, in whatſoever ſtile or dreſs it appears.

Then we ſhall hear a ſermon of pious and juſt ſentiments which eſteem and reverence, though the preacher has but an unpoliſhed ſtile, and many defects in the manner of his delivery. Then we ſhall neglect and diſregard all the flattering inſinuations, whereby the orator would make way for his own ſentiments to take poſſeſſion of our ſouls, if he has not ſolid and inſtructive ſenſe equal to his language. Oratory is a happy talent, when it is rightly employed, to excite the paſſions to the practice of virtue and piety: but, to ſpeak properly, this art has nothing to do in the ſearch after truth.

SECT.

SECT. III.

Prejudices ariſing from ourſelves.

NEITHER *words* nor *things* would ſo often lead us aſtray from truth, if we had not within ourſelves ſuch ſprings of error as theſe that follow.

I. Many errors are derived from our weakneſs of reaſon, and incapacity to judge of things in our infant ſtate. Theſe are called the *prejudices of infancy*. We frame early miſtakes about the common objects which ſurround us, and the common affairs of life: We fancy the nurſe is our beſt friend, becauſe children receive from their nurſes their food and other conveniencies of life. We judge that books are very unpleaſant things, becauſe perhaps we have been driven to them by the ſcourge. We judge alſo that the ſky touches the diſtant hills, becauſe we cannot inform ourſelves better in childhood. We believe the ſtars are not riſen till the ſun is ſet, becauſe we never ſee them by day. But ſome of theſe errors may ſeem to be derived from the next ſpring.

The way to cure the prejudices of infancy, is to diſtinguiſh, as far as we can, which are thoſe opinions which we framed in perfect childhood; to remember that at that time our reaſon was incapable of forming a right judgment, and to bring theſe propoſitions again to be examined at the bar of mature reaſon.

II. Our ſenſes gives us many a falſe information of things, and tempt us to judge amiſs. This is called *prejudice of ſenſe*: as, when we ſuppoſe the ſun and moon to be flat bodies, and to be but a few inches broad, becauſe they appear ſo to the eye. Senſe inclines us to judge that air has no weight, becauſe we do not feel it preſs heavy upon us; and we judge alſo by our ſenſes that cold and heat, ſweet

and four, red and blue, &c. are ſuch real properties in the objects themſelves, and exactly like thoſe ſenſations which they excite in us.

Note, Thoſe miſtakes of this ſort, which all mankind drop and loſe in their advancing age, are called mere prejudices of infancy; but thoſe which abide with the vulgar part of the world, and generally with all men, till learning and philoſophy cure them, more properly attain the name of *prejudices of ſenſe.*

Theſe prejudices are to be removed ſeveral ways. (1.) By the aſſiſtance of one ſenſe we cure the miſtakes of another; as, when a ſtick thruſt into the water ſeems crooked, we are prevented from judging it to be really ſo in itſelf; for, when we take it out of the water, both our ſight and feeling agree and determine it to be ſtraight. (2.) The exerciſe of our reaſon, and an application to mathematical and philoſophical ſtudies, cures many other *prejudices of ſenſe*, both with relation to the heavenly and earthly bodies. (3.) We ſhould remember that our ſenſes have often deceived us in various inſtances; that they give but a confuſed and imperfect repreſentation of things in many caſes; that they often repreſent falſly thoſe very objects to which they ſeem to be fuited, ſuch as the *ſhape*, *motion*, *ſize*, and *ſituation*, of groſs bodies, if they are but placed at a diſtance from us; and as for the minute particles of which bodies are compoſed, our ſenſes cannot diſtinguiſh them. (4.) We ſhould remember alſo, that one prime and original deſign of our ſenſes, is to inform us what various relations the bodies that are round about us bear to our own animal body, and to give us notice what is pleaſant and uſeful, or what is painful or injurious to us; but they are not ſufficient of themſelves to lead us into a philoſophical acquaintance with the inward nature of things. It muſt be confeſſed, it is by the aſſiſtance of the *eye* and the *ear* eſpecially (which

are

are called the *ſenſes of diſcipline*) that our minds are furniſhed with various parts of knowledge, by reading, hearing, and obſerving things divine and human; yet reaſon ought always to accompany the exerciſe of our ſenſes, whenever we would form a juſt judgment of things propoſed to our inquiry.

Here it is proper to obſerve alſo, that as the weakneſs of reaſon in our infancy, and the dictates of our ſenſes, ſometimes in advancing years, lead the wiſer part of mankind aſtray from truth; ſo the meaner parts of our ſpecies, perſons whoſe genius is very low, whoſe judgment is always weak, who are ever indulging the dictates of ſenſe and humour, are but children of a large ſize, they ſtand expoſed to everlaſting miſtakes in life, and live and die in the midſt of prejudices.

III. Imagination is another fruitful ſpring of falſe judgments. Our imagination is nothing elſe but the various appearances of our ſenſible ideas in the brain, where the ſoul frequently works in uniting, disjoining, multiplying, magnifying, diminiſhing, and altering the ſeveral ſhapes, colours, ſounds, motions, words and things, that have been communicated to us by the outward organs of ſenſe. It is no wonder therefore if fancy leads us into many miſtakes, for it is but ſenſe at ſecond hand. Whatever is ſtrongly impreſſed upon the imagination, ſome perſons believe to be true. Some will chooſe a particular number in a lottery, or lay a large wager on a ſingle chance of a dye, and doubt not of ſucceſs, becauſe their fancy feels ſo powerful an impreſſion, and aſſures them it will be proſperous. A thouſand pretended prophecies and inſpirations, and all the freaks of enthuſiaſm, have been derived from this ſpring. Dreams are nothing elſe but the deceptions of fancy: A delirium is but a ſhort wildneſs of the imagination; and a ſettled irregularity of fancy, is diſtraction and madneſs.

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One way to gain a victory over this unruly faculty, is to ſet a watch upon it perpetually, and to bridle it in all its extravagancies; never to believe any thing merely becauſe fancy dictates it, any more than I would believe a midnight-dream, nor to truſt fancy any father, than it is attended with ſevere reaſon. It is a very uſeful and entertaining power of human nature, in matters of illuſtration, perſuaſion, oratory, poetry, wit, converſation, &c. but in the calm inquiry after truth, and the final judgment of things, fancy ſhould retire, and ſtand aſide, unleſs it be called in to explain or illuſtrate a difficult point by a ſimilitude.

Another method of deliverence from theſe prejudices of fancy, is to compare the *ideas* that ariſe in our imaginations with the real nature of things, as often as we have occaſion to judge concerning them; and let calm and ſedate reaſon govern and determine our opinions, though fancy ſhould ſhew never ſo great a reluctance. Fancy is the inferior faculty, and it ought to obey.

IV. The various paſſions or affections of the mind, are numerous and endleſs ſprings of prejudice. They diſguiſe every object they converſe with, and put their own colours upon it, and thus lead the judgment aſtray from truth. It is love that makes the mother think her own child the faireſt, and will ſometimes perſuade us that a blemiſh is a beauty. Hope and deſire make an hour of delay ſeem as long as two or three hours: Hope inclines us to think there is nothing too difficult to be attempted: Deſpair tells us that a brave attempt is mere raſhneſs, and that every difficulty is unſurmountable. Fear makes us imagine that a buſh ſhaken with the wind has ſome ſavage beaſt in it, and multiplies the dangers that attend our path: But ſtill there is a more unhappy effect of fear, when it keeps millions of ſouls in ſlavery to the errors of eſtabliſhed religion: What could perſuade the wiſe men and philoſophers of a-

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Popiſh country to believe the groſs abſurdities of the Romiſh church, but the fear of torure, or death, the galleys, or the inquiſition? Sorrow and melancholy tempt us to think our circumſtances much more diſmal than they are, that we may have ſome excuſe for mourning: And envy repreſents the condition of our neighbour better than it is, that there might be ſome pretence for her own vexation and uneaſineſs. Anger, wrath, and revenge, and all thoſe hateful paſſions, excite in us far worſe ideas of men than they deſerve, and perſuade us to believe all that is ill of them. A detail of the evil influence of the affections of the mind upon our judgment would make a large volume.

The cure of theſe prejudices is attained by a conſtant jealouſy of ourſelves, and watchfulneſs over our paſſions, that they may never interpoſe when we are called to paſs a judgment of any thing: And when our affections are warmly engaged, let us abſtain from judging. It would be alſo of great uſe to us to form our deliberate judgments of perſons and things in the calmeſt and ſereneſt hours of life, when the paſſions of nature are all ſilent, and the mind enjoys its moſt perfect compoſure: and theſe judgments ſo formed ſhould be treaſured up in the mind, that we might have recourſe to them in hours of need. See many more ſentiments and directions relating to this ſubject, in my Doctrine of the Paſſions, a new edition enlarged.

V. The fondneſs we have for *ſelf*, and the relation which other perſons and things have to ourſelves, furniſh us with another long liſt of prejudices. This indeed might be reduced to the paſſion of ſelf-love; but it is ſo copious an head that I choſe to name it a diſtinct ſpring of falſe judgments. We are generally ready to fancy every thing of our own has ſomething peculiarly valuable in it, when indeed there is no other reaſon, but becauſe it is our own. Were we born among the gardens of Italy, the

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rocks of Switzerland, or the ice and ſnows of Ruſſia and Sweden, ſtill we ſhould imagine peculiar excellencies in our native land. We conceive a good idea of the town and village where we firſt breathed, and think the better of a man for being born near us. We entertain the beſt opinion of the perſons of our own party, and eaſily believe evil reports of perſons of a different ſect or faction. Our own ſex, our kindred, our houſes, and our very names, ſeem to have ſomething good and deſirable in them. We are ready to mingle all theſe with ourſelves, and cannot bear to have others think meanly of them.

So good an opinion have we of our own ſentiments and practices, that it is very difficult to believe what a reprover ſays of our conduct; and we are as ready to aſſent to all the language of flattery. We ſet up our own opinions in religion and philoſophy as the teſts of orthodoxy and truth; and we are prone to judge every practice of other men either a duty or a crime, which we think would be a crime or a duty in us, though their circumſtances are vaſtly different from our own. This humour prevails ſometimes to ſuch a degree, that we would make our own taſte and inclination the ſtandard by which to judge of every diſh of meat that is ſet upon the table, every book in a library, every employment, ſtudy, and buſineſs of life, as well as every recreation.

It is from this evil principle, of ſetting up ſelf for a model what other men ought to be, that the antichriſtian ſpirit of impoſition and perſecution had its original: Though there is no more reaſon for it than there was for the practice of that tyrant, who having a bed fit for his own ſize, was reported to ſtretch men of low ſtature upon the rack, till they were drawn out the length of his bed; and ſome add alſo, that he cut of the legs off any whom he found too long for it.

It is alſo from a principle near akin to this, that we pervert and ſtrain the writings of many venera-

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ble authors, and eſpecially the ſacred books of ſcripture, to make them ſpeak our own ſenſe. Through the influence which our own ſchemes or hypotheſes have upon the mind, we ſometimes become ſo ſharp-ſighted as to find theſe ſchemes in thoſe places of ſcripture where the holy writers never thought of them, nor the holy ſpirit intended them. At other times this prejudice brings ſuch a dimneſs upon the ſight, that we cannot read any thing that oppoſes our own ſcheme, though it be written as with ſun-beams, and in the plaineſt language; and perhaps we are in danger in ſuch a caſe of winking a little againſt the light.

We ought to bring our minds free, unbiaſſed, and teachable, to learn our religion from the word of God; but we have generally formed all the leſſer as well as the greater points of our religion beforehand, and then we read the prophets and apoſtles only to pervert them to confirm our own opinions. Were it not for this influence of *ſelf*, and a bigotry to our own tenets, we could hardly imagine that ſo many ſtrange, abſurd, inconſiſtent, wicked, miſchievous, and bloody principles, ſhould pretend to ſupport and defend themſelves by the goſpel of Chriſt.

Every learned critic has his own hypotheſis; and if the common text be not favourable to his opinion, a various lection ſhall be made authentic. The text muſt be ſuppoſed to be defective or redundant; and the ſenſe of it ſhall be literal or metaphorical, according as it beſt ſupports his own ſcheme. Whole chapters or books ſhall be added or left out of the ſacred canon, or be turned into parables by this influence. Luther knew not well how to reconcile the epiſtle of St. James to the doctrine of juſtification by faith alone, and ſo he could not allow it to be divine. The Papiſts bring all the apocrypha into their bible, and ſtamp divinity upon it; for they can fancy purgatory is there, and they find prayers for the dead. But they leave out the ſecond commandment,

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becauſe it forbids the worſhip of images. Others ſuppoſe the Moſaic hiſtory of the creation, and the fall of man, to be oriental ornaments, or a mere allegory, becauſe the literal ſenſe of thoſe three chapters of Geneſis do not agree with their theories. Even an honeſt plain-hearted and unlearned Chriſtian is ready to find ſomething in every chapter of the bible to countenance his own private ſentiments; but he loves thoſe chapters beſt which ſpeak his own opinions plaineſt: This is a prejudice that ſticks very cloſe to our natures; the ſcholar is infeſted with it daily, and the mechanic is not free.

Self has yet a farther and a more pernicious influence upon our underſtandings, and is an unhappy guide in the ſearch after truth. When our own inclination, or our eaſe, our honour, or our profit, tempt us to the practice of any thing of ſuſpected lawfulneſs, how do we ſtrain our thoughts to find arguments for it and perſwade ourſelves it is lawful? We colour over iniquity and ſinful compliance with the names of virtue and innocence, or at leaſt of conſtraint and neceſſity. All the different and oppoſite ſentiments and practices of mankind are too much influenced by this mean bribery, and give too juſt occaſion for ſatyrical writers to ſay, that ſelf-intereſt governs all mankind.

When the judge had awarded due damages to a perſon into whoſe field a neighbour's oxen had broke, it is reported that he reverſed his own ſentence, when he heard that the oxen which had done this michief were his own. Whether this be a hiſtory or a parable, it is ſtill a juſt repreſentation of the wretched influence of *ſelf* to corrupt the judgment.

One way to amend this prejudice, is to thruſt *ſelf* ſo far out of the queſtion, that it may have no manner of influence whenſoever we are called to judge and conſider the naked nature, truth, and juſtice of things. In matters of equity between man and man, our Saviour has taught us an effectual means of

of guarding againſt this prejudice, and that is, to put my neighbour in the place of myſelf, and myſelf in the place of my neighbour, rather than be bribed by this corrupt principle of ſelf-love to do injury to our neighbours. Thence ariſes that golden rule of dealing with others as we would have others deal with us.

In the judgment of truth and falſhood, right and wrong, good and evil, we ought to conſider that every man has a SELF as well as we; and that the taſtes, paſſions, inclinations, and intereſts of different men are very different, and often contrary, and that they dictate contrary things: Unleſs therefore all manner of different and contrary propoſitions can be true at once, *ſelf* can never be a juſt teſt or ſtandard of truth and falſhood, good and evil.

VI. The tempers, humours, and peculiar turns of the mind, whether they be natural or acquired, have a great influence upon our judgment, and become the occaſion of many miſtakes. Let us ſurvey a few of them.

(1.) Some perſons are of an eaſy and credulous temper, while others are perpetually diſcovering a ſpirit of contradiction.

The credulous man is ready to receive every thing for truth that has but a ſhadow of evidence; every new book that he reads, and every ingenious man with whom he converſes, has power enough to draw him into the ſentiments of the ſpeaker or writer. He has ſo much complaiſance in him, or weakneſs of ſoul, that he is ready to reſign his own opinion to the firſt objection which he hears, and to receive any ſentiments of another that are aſſerted with a poſitive air and much aſſurance. Thus he is under a kind of neceſſity, through the indulgence of this credulous humour, either to be often changing his opinions, or to believe inconſiſtencies.

The man of contradiction is of a contrary humour, for he ſtands ready to oppoſe every thing that is ſaid: He gives but a ſlight attention to the reaſons of other men,

men, from an inward and ſcornful preſumption that they have no ſtrength in them. When he reads or hears a diſcourſe different from his own ſentiments, he does not give himſelf leave to conſider whether that diſcourſe may be true; but employs all his powers immediately to confute it. Your great diſputers, and your men of controverſy, are in continual danger of this ſort of prejudice: They contend often for victory, and will maintain whatſoever they have aſſerted, while truth is loſt in the noiſe and tumult of reciprocal contradictions; and it frequently happens that a debate about opinions is turned into a mutual reproach of perſons.

The prejudice of credulity may in ſome meaſure be cured, by learning to ſet a high value on truth, and by taking more pains to attain it; remembering that truth oftentimes lies dark and deep, and requires us to dig for it as hid treaſure; and that falſhood often puts on a fair diſguiſe, and therefore we ſhould not yield up our judgment to every plauſible appearance. It is no part of civility or good breeding to part with truth, but to maintain it with decency and candour.

A ſpirit of contradiction is ſo pedantic and hateful, that a man ſhould take much pains with himſelf to watch againſt every inſtance of it: He ſhould learn ſo much good humour, at leaſt, as never to oppoſe any thing without juſt and ſolid reaſon for it: He ſhould abate ſome degrees of pride and moroſeneſs, which are never-failing ingredients in this ſort of temper, and ſhould ſeek after ſo much honeſty and conſcience as never to contend for conqueſt or triumph; but to review his own reaſons, and to read the arguments of his opponents (if poſſible) with an equal indifferency, and be glad to ſpy truth, and to ſubmit to it, though it appear on the oppoſite ſide.

(2.) There is another pair of prejudices, derived from two tempers of mind, near akin to thoſe I have juſt now mentioned; and theſe are the dogmatical and

and the ſceptical humour, that is, always poſitive, or always doubting.

By what means ſoever the dogmatiſt came by his opinions, whether by his ſenſes or by his fancy, his education or his own reading, yet he believes them all with the ſame aſſurance that he does a mathematical truth; he has ſcarce any mere probabilities that belong to him; every thing with him is certain and infallible; every punctilio in religion is an article of his faith; and he anſwers all manner of objections by a ſovereign contempt.

Perſons of this temper are ſeldom to be convinced of any miſtake: A full aſſurance of their own notions makes all the difficulties on their own ſide vaniſh ſo intirely, that they think every point of their belief is written as with ſun-beams, and wonder any one ſhould find a difficulty in it. They are amazed that learned men ſhould make a controverſy of what is to them ſo perſpicuous and indubitable. The loweſt rank of people, both in learned and in vulgar life, is very ſubject to this obſtinacy.

Scepticiſm is a contrary prejudice. The dogmatiſt is ſure of every thing, and the ſceptic believes nothing. Perhaps he has found himſelf often miſtaken in matters of which he thought himſelf well aſſured in his younger days, and therefore he is afraid to give his aſſent to any thing again. He ſees ſo much ſhew of reaſon for every opinion, and ſo many objections alſo ariſing againſt every doctrine, that he is ready to throw off the belief of every thing: He renounces at once the purſuit of truth, and contents himſelf to ſay, There is nothing certain. It is well, if through the influence of ſuch a temper he does not caſt away his religion as well as his philoſophy, and abandon himſelf to a profane courſe of life, regardleſs of hell or heaven.

Both theſe prejudices laſt mentioned, though they are ſo oppoſite to each other, yet they ariſe from the ſame ſpring, and that is, impatience of ſtudy, and want

want of diligent attention in the ſearch of truth. The dogmatiſt is in haſte to believe ſomething; he cannot keep himſelf long enough in ſuſpence, till ſome bright and convincing evidence appear on one ſide, but throws himſelf caſually into the ſentiments of one party or another, and then he will hear no argument to the contrary. The ſceptic will not take pains to ſearch things to the bottom, but when he ſees difficulties on both ſides, reſolves to believe neither of them. Humility of ſoul, patience in ſtudy, diligence in inquiry, with an honeſt zeal for truth, would go a great way towards the cure of both theſe follies.

(3.) Another ſort of temper that is very injurious to a right judgment of things, is an inconſtant, fickle, changeable ſpirit, and a very uneven temper of mind. When ſuch perſons are in one humour, they paſs a judgment of things agreeable to it; when their humour changes, they reverſe their firſt judgment, and embrace a new opinion. They have no ſteadineſs of ſoul; they want firmneſs of mind ſufficient to eſtabliſh themſelves in any truth, and are ready to change it for the next alluring falſhood that is agreeable to their change of humour. This fickleneſs is ſometimes ſo mingled with their very conſtitution by nature, or by diſtemper of body, that a cloudy day and a lowring ſky ſhall ſtrongly incline them to form an opinion both of themſelves, and of perſons and things round about them, quite different from what they believe when the ſun ſhines, and the heavens are ſerene.

This ſort of people ought to judge of things and perſons in their moſt ſedate, peaceful, and compoſed hours of life, and reſerve theſe judgments for their conduct at more unhappy ſeaſons.

(4.) Some perſons have a violent and turgid manner both of talking and thinking; whatſoever they judge of, it is always with a tincture of this vanity. They are always in extremes, and pronounce concerning every thing in the ſuperlative. If they think a man to

to be learned, *he is the chief ſcholar of the age;* If another has low parts, *he is the greateſt blockhead in nature:* If they approve any book on divine ſubjects, *it is the beſt book in the world next to the bible:* If they ſpeak of a ſtorm of rain or hail, *it is the moſt terrible ſtorm that fell ſince the creation:* And a cold winter day is the *coldeſt that ever was known.*

But the men of this ſwelling language ought to remember, that nature has ten thouſand moderate things in it, and does not always deal in extremes as they do.

(5.) I think it may be called another ſort of prejudice derived from humour, when ſome men believe a doctrine merely becauſe it is ancient, and has been long believed; others are ſo fond of novelty, that nothing prevails upon their aſſent ſo much as new thoughts and new motions. Again, there are ſome who ſet a high eſteem upon every thing that is foreign and farfetched; therefore China pictures are admired, how aukward ſoever: Others value things the more for being of our own native growth, invention, or manufacture, and theſe as much deſpiſe foreign things.

Some men of letters and theology will not believe a propoſition even concerning a ſublime ſubject, till every thing myſterious, deep, and difficult, is cut off from it, though the ſcripture aſſerts it never ſo plainly; others are ſo fond of a myſtery and things incomprehenſible, that they would ſcarce believe the doctrine of the Trinity, if it could be explained; they incline to that fooliſh rant of one of the antients, *Credo quia impoſſibile eſt;* "I believe it becauſe it is impoſſible."

To cure theſe miſtakes, remember that neither antique nor novel, foreign nor native, myſterious nor plain, are certain characters either of truth or falſhood.

I might mention various other *humours of men* that excite in them various prejudices, and lead them into

into raſh and miſtaken judgments; but theſe are ſufficient for a ſpecimen.

VII. There are ſeveral other weakneſſes which belong to human nature, whereby we are led into miſtakes, and indeed are rendered almoſt incapable of paſſing a ſolid judgment in matters of great depth and difficulty. Some have a native obſcurity of perception, (or ſhall I call it a want of natural ſagacity)? whereby they are hindred from attaining clear and diſtinct ideas. Their thoughts always ſeem to have ſomething confuſed and cloudy in them, and therefore they judge in the dark. Some have a defect of memory, and then they are not capable of comparing their preſent ideas with a great variety of others, in order to ſecure themſelves from inconſiſtency in judgment. Others may have a memory large enough, yet they are ſubject to the ſame errors, from a narrowneſs of ſoul, and ſuch a fixation and confinement of thought to a few objects, that they ſcarce ever take a ſurvey of things wide enough to judge wiſely and well, and to ſecure themſelves from all inconſiſtencies.

Though theſe are *natural defects* and *weakneſſes*, yet they may in ſome meaſure be relieved by labour, diligence, and a due attention to proper rules.

But among all the cauſes of falſe judgment which are within ourſelves, I ought by no means to leave out that univerſal and original ſpring of error, which we are informed of by the word of God; and that is, the ſin and defection of our firſt parents; whereby all our beſt natural powers, both of mind and body, are impaired, and rendered very much inferior to what they were in a ſtate of innocence. Our underſtanding is darkened, our memory contracted, our corrupt humours and paſſions are grown predominant, our reaſon enfeebled, and various diſorders attend our conſtitution and animal nature, whereby the mind is ſtrangely impoſed upon in its judgment of things. Nor is there any perfect relief

relief to be expected on earth. There is no hope of ever recovering from theſe maladies, but by a ſincere return to God in the ways of his own appointment, whereby we ſhall be kept ſafe from all dangerous and pernicious errors in the matters of religion; and though imperfections and miſtakes will hang about us in the preſent life as the effects of our original apoſtacy from God, yet we hope for a full deliverance from them when we arrive at heaven.

SECT. IV.

Prejudices ariſing from Other Perſons.

WERE it not for the ſprings of prejudice that are lurking in ourſelves, we ſhould not be ſubject to ſo many miſtakes from the influence of others: But, ſince our nature is ſo ſuſceptive of errors on all ſides, it is fit we ſhould have hints and notices given us, how far other perſons may have power over us, and become the cauſes of all our falſe judgments. This might alſo be caſt into one heap, for they are all near akin, and mingle with each other; but for diſtinction-ſake let them be called the prejudices of education, of cuſtom, of authority, and ſuch as ariſe from the manner of propoſal.

I. Thoſe with whom our education is intruſted may lay the firſt foundation of many miſtakes in our younger years. How many fooleries and errors are inſtilled into us by our nurſes, our fellow-children; by ſervants or unſkilled teachers; which are not only maintained through the following parts of life, but ſometimes have a very unhappy influence upon us! We are taught that there are bugbears and goblins in the dark; our young minds are crouded with the terrible ideas of ghoſts appearing upon every occaſion, or with the pleaſanter tales of fairies dancing at midnight. We learn to prophecy betimes, to foretel

futurities by good or evil omens, and to preſage approaching death in a family by ravens and little worms, which we therefore call a death watch. We are taught to know beforehand, for a twelvemonth together, which days of the week will be fair or foul, which will be lucky or unlucky; nor is there any thing ſo ſilly, but may be impoſed upon our underſtandings in that early part of life; and theſe ridiculous ſtories abide with us too long, and too far influence the weaker part of mankind.

We chooſe our particular ſet and party in the civil, the religious, and the learned life, by the influence of education. In the colleges of learning, ſome are for the nominals, and ſome for the realiſts, in the ſcience of metaphyſics, becauſe their tutors were devoted to theſe parties. The old philoſophy and the new have gained thouſands of partiſans the ſame way: And every religion has its infant votaries, who are born, live and die in the ſame faith, without examination of any article. The Turks are taught early to believe in Mahomet; the Jews in Moſes; the heathens worſhip a multitude of gods, under the force of their education. And it would be well if there were not millions of Chriſtians, who have little more to ſay for their religion, than that they were born and bred up in it. The greateſt part of the Chriſtian world can hardly give any reaſon why they believe the Bible to be the word of God, but becauſe they have always believed it, and they were taught ſo from their infancy. As Jews and Turks, and American Heathens, believe the moſt monſtrous and incredible ſtories, becauſe they have been trained up amongſt them, as articles of faith; ſo the Papiſts believe their tranſubſtantiation, and make no difficulty of aſſenting to impoſſibilities, ſince it is the current doctrine of their catechiſms. By the ſame means, the ſeveral ſects and parties in Chriſtianity believe all the ſtrained interpretations of ſcripture by which they have been taught to ſupport their own tenets;

tenets: They find nothing difficult in all the abſurd gloſſes and far-fetched ſenſes, that are ſometimes put upon the words of the ſacred writers, becauſe their ears have been always accuſtomed to theſe gloſſes; and therefore they ſit ſo ſmooth and eaſy upon their underſtandings, that they know not how to admit the moſt natural and eaſy interpretation in oppoſition to them.

In the ſame manner, we are nurſed up in many ſilly and groſs miſtakes about domeſtic affairs, as well as in matters of political concernment. It is upon the ſame ground that children are trained up to be Whigs and Tories betimes; and every one learns the diſtinguiſhing terms of his own party, as the Papiſts learn to ſay their prayers in Latin, without any meaning, reaſon, or devotion.

This ſort of prejudice muſt be cured by calling all the principles of our young years to the bar of more mature reaſon, that we may judge of the things of nature and political affairs by juſter rules of philoſophy and obſervation: And even the matters of religion muſt be firſt inquired into by reaſon and conſcience, and when theſe have led us to believe ſcripture to be the word of God, then that becomes our ſovereign guide, and reaſon and conſcience muſt ſubmit to receive its dictates.

II. The next prejudice which I ſhall mention, is that which ariſes from the cuſtom or faſhion of thoſe amongſt whom we live. Suppoſe we have freed ourſelves from the younger prejudices of our education, yet we are in danger of having our mind turned aſide from truth by the influence of general cuſtom.

Our opinion of meats and drinks, of garments and forms of ſalutation, are influenced much more by cuſtom, than by the eye, the ear, or the taſte. Cuſtom prevails even over ſenſe itſelf, and therefore no wonder if it prevail over reaſon too. What is it but *cuſtom* that renders many of the mixtures of

food and ſauces elegant in Britain, which would be aukward and nauſeous to the inhabitants of China, and indeed were nauſeous to us when we firſt taſted them? What but cuſtom could make thoſe ſalutations polite in Muſcovy, which are ridiculous in France or England? We call ourſelves indeed the politer nations, but it is we who judge thus of ourſelves; and that fancied politeneſs is oftentimes more owing to cuſtom than reaſon. Why are the forms of our preſent garments counted beautiful, and thoſe faſhions of our anceſtors the matter of ſcoff and contempt, which in their day were all decent and genteel? It is cuſtom that forms our opinion of dreſs, and reconciles by degrees to thoſe habits which at firſt ſeemed very odd and monſtrous. It muſt be granted, there are ſome garments and habits which have a natural congruity or incongruity, modeſty or immodeſty, decency or indecency, gaudery or gravity; though for the moſt part there is but little of reaſon in theſe affairs: But what little there is of reaſon or natural decency, cuſtom triumphs over all. It is almoſt impoſſible to perſuade a gay lady that any thing can be decent which is out of the faſhion: And it were well if faſhion ſtretched its powers no farther than the buſineſs of drapery and the fair ſex.

The methods of our education are governed by cuſtom. It is cuſtom, and not reaſon, that ſends every boy to learn the Roman poets, and begin a little acquaintance with Greek, before he is bound an apprentice to a ſoapboiler or leather-ſeller. It is cuſtom alone that teaches us Latin by the rules of a Latin grammar; a tedious and abſurd method! And what is it but cuſtom that has for paſt centuries confined the brighteſt geniuſes, even of the higheſt rank in the female world, to the buſineſs of the needle only, and ſecluded them moſt unmercifully from the pleaſure of knowledge, and the divine improvements of reaſon? But we begin to break all theſe chains, and reaſon begins to dictate

dictate the education of youth. May the growing age be learned and wiſe!

It is by the prejudice ariſing from our own cuſtoms, that we judge of all other civil and religious forms and practices. The rites and ceremonies of war and peace in other nations, the forms of weddings and funerals, the ſeveral ranks of magiſtracy, the trades and employments of both ſexes, the public and the domeſtic affairs of life, and almoſt every thing of foreign cuſtoms, is judged irregular. It is all imagined to be unreaſonable or unnatural, by thoſe who have no other rule to judge of nature and reaſon, but the cuſtoms of their own country, or the little town where they dwell. Cuſtom is called a ſecond nature, but we often miſtake it for nature itſelf.

Beſides all this, there is a faſhion in opinions, there is a faſhion in writing and printing, in ſtyle and language. In our day it is the vogue of the nation that parliaments may ſettle the ſucceſſion of the crown, and that a people can make a king; in the laſt age this was a doctrine akin to treaſon. Citations from the Latin poets were an embelliſhment of ſtyle in the laſt century, and whole pages in that day were covered with them; it is forbidden by cuſtom, and expoſed by the name of pedantry; whereas in truth both theſe are extremes. Sometimes our printed books ſhall abound in capitals, and ſometimes reject them all. Now we deal much in eſſays, and moſt unreaſonably deſpiſe ſyſtematic learning, whereas our fathers had a juſt value for regularity and ſyſtems; then folios and quartos were the faſhionable ſizes, as volumes in octavo are now. We are ever ready to run into extremes, and yet cuſtom ſtill perſuades us that reaſon and nature are on our ſide.

This buſineſs of the faſhion has a moſt powerful influence on our judgments; for it employs thoſe two ſtrong engines of fear and ſhame to operate upon

our underſtandings with unhappy ſucceſs. We are aſhamed to believe or profeſs an unfaſhionable opinion in philoſophy; and a cowardly ſoul dares not ſo much as indulge a thought contrary to the eſtabliſhed or faſhionable faith, nor act in oppoſition to cuſtom, though it be according to the dictates of reaſon.

I confeſs there is a reſpect due to mankind, which ſhould incline even the wiſeſt of men to follow the innocent cuſtoms of their country in the outward practices of civil life, and in ſome meaſure to ſubmit to faſhion in all indifferent affairs, where reaſon and ſcripture make no remonſtrances againſt it. But the judgments of the mind ought to be for ever free, and not biaſſed by the cuſtoms and faſhions of any age or nation whatſoever.

To deliver our underſtandings from this danger and ſlavery, we ſhould conſider theſe three things.

1. That the greateſt part of the civil cuſtoms of any particular nation or age ſpring from humour rather than reaſon. Sometimes the humour of the prince prevails, and ſometimes the humour of the people. It is either the great or the many who dictate the faſhion, and theſe have not always the higheſt reaſon on their ſide.

2. Conſider alſo, that the cuſtoms of the ſame nations in different ages, the cuſtoms of different nations in the ſame age, and the cuſtoms of different towns and villages in the ſame nation, are very various and contrary to each other. The faſhionable learning, language, ſentiments, and rules of politeneſs, differ greatly in different countries and ages of mankind; but truth and reaſon are of a more uniform and ſteady nature, and do not change with the faſhion. Upon this account, to cure the prepoſeſſions which ariſe from cuſtom, it is of excellent uſe to travel and ſee the cuſtoms of various countries, and to read the travels of other men, and the hiſtory

tory of paſt ages, that every thing may not ſeem ſtrange and uncouth which is not practiſed within the limits of our own pariſh, or in the narrow ſpace of our own life-time.

3. Conſider yet again, how often we ourſelves have changed our opinions concerning the decency, propriety, or congruity of ſeveral modes or practices in the world, eſpecially if we have lived to the age of thirty or forty. Cuſtom or faſhion, even in all its changes, has been ready to have ſome degree of aſcendency over our underſtandings, and what at one time ſeemed decent, appears obſolete and diſagreeable afterward, when the faſhion changes. Let us learn therefore to abſtract as much as poſſible from cuſtom and faſhion, when we would paſs a judgment concerning the real value and intrinſic nature of things.

III. The authority of men is the ſpring of another rank of prejudices.

Among theſe, the authority of our forefathers and ancient authors is moſt remarkable. We pay deference to the opinion of others merely becauſe they lived a thouſand years before us; and even the trifles and impertinencies that have a mark of antiquity upon them are reverenced for this reaſon, becauſe they came from the ancients.

It is granted that the ancients had many wiſe and great men among them, and ſome of their writings, which time hath delivered down to us, are truly valuable: But thoſe writers lived rather in the infant-ſtate of the world; and the philoſopers, as well as the polite authors of our age, are properly the elders who have ſeen the miſtakes of the younger ages of mankind, and corrected them by obſervation and experience.

Some borrow all their religion from the fathers of the Chriſtian church, or from their ſynods or councils; but he that will read Monſieur Daille on the uſe of the fathers, will find many reaſons why

they are by no means fit to dictate our faith, ſince we have the goſpel of Chriſt, and the writings of the apoſtles and prophets in our hands.

Some perſons believe every thing that their kindred, their parents, and their tutors believe. The veneration and the love which they have for their anceſtors incline them to ſwallow down all their opinions at once, without examining what truth or falſhood there is in them. Men make up their principles by inheritance, and defend them as they would their eſtates, becauſe they are born heirs to them. I freely grant, that parents are appointed by God and nature to teach us all the ſentiments and practice of our younger years; and happy are thoſe whoſe parents lead them into the paths of wiſdom and truth! I grant farther, that when perſons come to years of diſcretion, and judge for themſelves, they ought to examine the opinions of their parents, with the greateſt modeſty, and with an humble deference to their ſuperior character; they ought in matters perfectly dubious to give the preference to their parents advice, and always to pay them the firſt reſpect, nor ever depart from their opinions and practice, till reaſon and conſcience make it neceſſary. But, after all, it is poſſible that parents may be miſtaken, and therefore reaſon and ſcripture ought to be our final rules of determination in matters that relate to this world, and that which is to come.

Sometimes a favourite author, or a writer of great name, drags a thouſand followers after him into his own miſtakes, merely by the authority of his name and character. The ſentiments of Ariſtotle were imbibed and maintained by all the ſchools in Europe for ſeveral centuries; and a citation from his writings was thought a ſufficient proof of any propoſition. The great Deſcartes had alſo too many implicit believers in the laſt age, though he himſelf, in his philoſophy, diſclaims all ſuch influence over the

the minds of his readers. Calvin and Luther, in the days of reformation from Popery, were learned and pious men; and there have been a ſucceſſion of their diciples, even to this day, who pay too much reverence to the words of their maſters. There are others who renounce their authority, but give themſelves up in too ſervile a manner to the opinion and authority of other maſters, and follow as bad or worſe guides in religion.

If only learned, and wiſe, and good men had influence on the ſentiments of others, it would be at leaſt a more excuſable ſort of prejudice, and there would be ſome colour of ſhadow and reaſon for it: But that riches, honours, and outward ſplendor, ſhould ſet up perſons for dictators to all the reſt of mankind; this is a moſt ſhameful invaſion of the right of our underſtanding on the one hand, and as ſhameful a ſlavery of the ſoul on the other. The poor man, or the labourer, too often believes ſuch a principle in politics, or in morality, and judges concerning the rights of the king and the people juſt as his wealthy neighbour does. Half the pariſh follows the opinion of the eſquire; and the tenants of a manor fall into the ſentiments of their lord, eſpecially if he lives amongſt them. How unreaſonable, and yet how common is this!

As for the principles of religion, we frequently find how they are taken up and forſaken, changed and reſumed by the influences of princes. In all nations, the prieſts have much power alſo in dictating the religion of the people, but the princes dictate to them: And, where there is a great pomp and grandeur attending the prieſthood in any religion whatſoever, with ſo much the more reverence and ſtronger faith do the people believe whatever they teach them: Yet it is too evident, that riches, and dominions, and high titles, in church or ſtate, have no manner of pretence to truth and certainty, wiſdom and goodneſs, above the reſt of mortals, becauſe

theſe ſuperiorities in this world are not always conferred according to merit.

I confeſs, where a man of wiſdom and years, of obſervation and experience, gives us his opinion and advice in matters of the civil or the moral life; Reaſon tells us we ſhould pay a great attention to him, and it is probable he may be in the right. Where a man of long excerciſe in piety ſpeaks of practical religion, there is due deference to be paid to his ſentiments: And the ſame we may ſay concerning an ingenious man, long verſed in any art or ſcience, he may juſtly expect due regard when he ſpeaks of his own affairs and proper buſineſs. But, in other things, each of theſe may be ignorant enough, notwithſtanding all their piety and years, and particular ſkill: Nor even in their own proper province are they to be believed in every thing, without reſerve, and without examination.

To free ourſelves from theſe prejudices, it is ſufficient to remember, that there is no rank or character among mankind, which has any ſuch pretence to ſway the judgments of other men by their authority: For there have been perſons of the ſame rank and character who have maintained different and contrary ſentiments; but all theſe can never be true, and therefore the mere name or reputation tha any of them poſſeſſes is not a ſufficient evidence of truth.

Shall we believe the ancients in philoſophy? But ſome of the ancients were Stoics, ſome Peripatetics, ſome Platonics, and ſome Epicureans, ſome Cynics, and ſome Sceptics. Shall we judge of matters of the Chriſtian faith by the fathers, or primitive writers for three or four hundred years after Chriſt? But they often contradicted one another, and themſelves too; and, what is worſe, they ſometimes contradicted the ſcripture itſelf. Now, among all theſe different and contrary ſentiments in philoſophy and religion,

religion, which of the ancients muſt we believe, for we cannot believe them all?

Again, To believe in all things as our predeceſſors did, is the ready way to keep mankind in an everlaſting ſtate of infancy, and to lay an eternal bar againſt all the improvements of our reaſon and our happineſs. Had the preſent age of philoſophers ſatisfied themſelves with the ſubſtantial forms and occult qualities of Ariſtotle, with the ſolid ſpheres, eccentrics, and epicycles of Ptolemy, and the ancient aſtronomers; then the great Lord Bacon, Copernicus, and Deſcartes, with the greater Sir Iſaac Newton, Mr. Locke, and Mr. Boyle, had riſen in our world in vain. We muſt have blundered on ſtill, in ſucceſſive generations, among abſurdities and thick darkneſs, and a hundred uſeful inventions for the happineſs of human life had never been known.

Thus it is in the matters of philoſophy and ſcience. But, you will ſay, ſhall not our own anceſtors determine our judgment in matters of civil or religious concernment? If they muſt, then the child of a Heathen muſt believe that Heatheniſm is truth; the ſon of a Papiſt muſt aſſent to all the abſurdities of Popery; the poſterity of the Jews and Socinians muſt for ever be Socinians and Jews; and a man whoſe father was of Republican principles, muſt make a ſucceſſion of Republicans in his family to the end of the world. If we ought always to believe whatſoever our parents, our prieſts, or our princes believe, the inhabitants of China ought to worſhip their own idols, and the ſavages of Africa ought to believe all the nonſenſe, and practiſe the idolatry of their Negro fathers and kings. The Britiſh nation, when it was Heathen, could never have become Chriſtian; and, when it was a ſlave to Rome, it could never have been reformed.

Beſides, let us conſider, that the great God, our common Maker, has never given one man's under-

ſtanding a legal and rightful ſovereignty to determine truths for others, at leaſt after they are paſt the ſtate of childhood or minority. No ſingle perſon, how learned and wiſe, and great ſoever, or whatſoever natural, or civil, or eccleſiaſtical relation he may have to us, can claim this dominion over our faith. St Paul the apoſtle, in his private capacity, would not do it; nor hath an inſpired man any ſuch authority, until he makes his divine commiſſion appear. Our Saviour himſelf tells the Jews, that if he had not done ſuch monſtrous works among them, they had not ſinned in diſbelieving his doctrines, and refuſing him for the Meſſiah. No biſhop or preſbyter, no ſynod or council, no church or aſſembly of men, ſince the days of inſpiration, hath power derived to them from God to make creeds or articles of faith for us, and impoſe them upon our underſtandings. We muſt all act according to the beſt of our own light, and the judgment of our own conſciences, uſing the beſt advantages which providence hath given us, with an honeſt and impartial diligence to inquire and ſearch out the truth: For every one of us muſt give an account of himſelf to God. To believe as the church, or the court believes, is but a ſorry and a dangerous faith: This principle would make more Heathens than Chriſtians, and more Papiſts than Proteſtants; and perhaps lead more ſouls to hell than to heaven; for our Saviour himſelf hath plainly told us, that if the blind will be led by the blind, they muſt both fall into the ditch.

Though there be ſo much danger of error ariſing from the three prejudices laſt mentioned, yet, before I diſmiſs this head, I think it proper to take notice, that, as education, cuſtom, and authority, are no ſure evidences of truth, ſo neither are they certain marks of falſhood; for reaſon and ſcripture may join to dictate the ſame things which our parents, our nurſes, our tutors, our friends, and our country, believe and profeſs. Yet there appears ſometimes

times in our age a pride and petulancy in youth, zealous to caſt off the ſentiments of their fathers, and teachers, on purpoſe to ſhew that they carry none of the prejudices of education and authority about them. They indulge all manner of licentious opinions and practices, from a vain pretence of aſſerting their liberty. But alas! This is but changing one prejudice for another; and ſometimes it happens by this means, that they make a ſacrifice both of truth and virtue to the vile prejudices of their pride and ſenſuality.

IV. There is another tribe of prejudices which are near akin to thoſe of authority, and that is, when we receive a doctrine becauſe of the manner in which it is propoſed to us by others. I have already mentioned the powerful influence that oratory and fine words have to inſinuate a falſe opinion; and ſometimes truth is refuſed, and ſuffers contempt in the lips of a wiſe man, for want of the charms of language: But there are ſeveral other manners of propoſal, whereby miſtaken ſentiments are powerfully conveyed into the mind.

Some perſons are eaſily perſuaded to believe what another dictates with a poſitive air, and a great degree of aſſurance: They feel the overbearing force of a confident dictator, eſpecially if he be of a ſuperior rank or character to themſelves.

Some are quickly convinced of the truth of any doctrine, when he that propoſes it puts on all the airs of piety, and makes ſolemn appeals to heaven, and proteſtations of the truth of it: The pious mind of a weaker Chriſtian is ready to receive any thing that is pronounced with ſuch an awful ſolemnity.

It is a prejudice near akin to this, when an humble ſoul is frighted into any particular ſentiments of religion, becauſe a man of great name or character pronounces hereſy upon the contrary ſentiments, caſts the diſbeliever out of the church, and forbids him the gates of heaven.

Others

Others are allured into particular opinions by gentler practices on the underſtanding: Not only the ſoft tempers of mankind, but even hardy and rugged ſouls, are ſometimes led captives to error by the ſoft air of addreſs, and the ſweet and engaging methods of perſuaſion and kindneſs.

I grant, where natural or revealed religion plainly dictate to us the infinite and everlaſting importance of any ſacred doctrine, it cannot be improper to uſe any of theſe methods, to perſuade men to receive and obey the truth, after we have given ſufficient reaſon and argument to convince their underſtandings. Yet all theſe methods, conſidered in themſelves, have been often uſed to convey falſhood into the ſoul as well as truth; and if we build our faith merely upon theſe foundations, without regard to the evidence of truth, and the ſtrength of argument, our belief is but the effect of prejudice: For neither the poſitive, the awful or ſolemn, the terrible or the gentle methods of addreſs carry any certain evidence with them that truth lies on that ſide.

There is another manner of propoſing our own opinion, or rather oppoſing the opinions of others, which demands a mention here, and that is when perſons make a jeſt ſerve inſtead of an argument; when they refute what they call error, by a turn of wit, and anſwer every objection againſt their own ſentiments by caſting a ſneer upon the objector. Theſe ſcoffers practiſe with ſucceſs upon weak and cowardly ſpirits: Such as have not been well eſtabliſhed in religion or morality, have been laughed out of the beſt principles by a confident buffoon: they have yielded up their opinions to a witty banterer, and ſold their faith and religion for a jeſt.

There is no way to cure theſe evils in ſuch a degenerate world as we live in, but by learning to diſtinguiſh well between the ſubſtance of any doctrine, and the manner of addreſs, either in propoſing, attacking, or defending it; and then by ſetting a juſt and

and ſevere guard of reaſon and conſcience over all the exerciſes of our judgment, reſolving to yield to nothing but the convincing evidence of truth, religiouſly obeying the light of reaſon, in matters of pure reaſon, and the dictates of revelation in things that relate to our faith.

Thus we have taken a brief ſurvey of ſome of the infinite varieties of prejudice that attend mankind on every ſide in the preſent ſtate, and the dangers of error, or of raſh judgment, we are perpetually expoſed to in this life: This chapter ſhall conclude with one remark, and one piece of advice.

The remark is this. The ſame opinion, whether falſe or true, may be dictated by many prejudices at the ſame time; for, as I hinted before, prejudice may happen to dictate truth ſometimes as well as error. But, where two or more prejudices oppoſe one another, as it often happens, the ſtronger prevails and gains the aſſent: Yet how ſeldom does reaſon interpoſe with ſufficient power to get the aſcendant of them all, as it ought to do!

The advice follows, namely, Since we find ſuch a ſwarm of prejudices attending us both within and without; ſince we feel the weakneſs of our reaſon, the frailty of our natures, and our inſufficiency to guard ourſelves from error upon this account, it is not at all unbecoming the character of a logician or a philoſopher, together with the advice already given, to direct every perſon in his ſearch after truth to make his daily addreſſes to heaven, and implore the God of truth to lead him into all truth, and to aſk wiſdom of him who giveth liberally to them that aſk it, and upbraideth us not with our follies.

Such a devout practice will be an excellent preparative for the beſt improvement of all the directions and rules propoſed in the two following chapters.

CHAP

CHAP. IV.

General Directions to aſſiſt us in judging aright.

THE chief deſign of the art of logic is to aſſiſt us in forming a true judgment of things; a few proper obſervations for this end have been dropt occaſionally in ſome of the foregoing chapters: Yet it is neceſſary to mention them again in this place, that we may have a more complete and ſimultaneous view of the general directions, which are neceſſary in order to judge aright. A multitude of advices may be framed for this purpoſe; the chief of them may, for order ſake, be reduced to the following heads.

Direction I. "When we conſider ourſelves as philoſophers, or ſearchers after truth, we ſhould examine all our old opinions afreſh, and inquire "what was the ground of them, and whether our "aſſent was built on juſt evidence; and then we "ſhould caſt off all thoſe judgments which were "formed heretofore without due examination." A man in purſuit of knowledge ſhould throw off all thoſe prejudices which he had imbibed in times paſt, and guard againſt all the ſprings of error mentioned in the preceeding chapter, with the utmoſt watchfulneſs, for time to come.

Obſerve here, That this rule of caſting away all our former prejudicate opinions and ſentiments is not propoſed to any of us to be practiſed at once, conſidered as men of buſineſs or religion, as friends or neighbours, as fathers or ſons, as magiſtrates, ſubjects, or Chriſtians; but merely as philoſophers and ſearchers after truth: And though it may be well preſumed that many of our judgments, both true and falſe, together with the practices built thereon in the natural, the civil, and the religious life, were formed without ſufficient

ent evidence; yet an univerſal rejection of all theſe might deſtroy at once our preſent ſenſe and practice of duty with regard to God, ourſelves, and our fellow-creatures. Mankind would be hereby thrown into ſuch a ſtate of doubting and indifference, that it would be too long ere they recovered any principles of virtue or religion by a train of reaſonings.

Beſides, the common affairs of human life often demand a much ſpeedier determination, and we muſt many times act upon preſent probabilities: The bulk of mankind have not time and leiſure, and advantages ſufficient to begin all their knowledge anew, and to build up every ſingle opinion and practice afreſh, upon the juſteſt grounds of evidence.

Yet let it be obſerved alſo, that ſo far as any perſon is capable of forming and correcting his notions, and his rules of conduct in the natural, civil, and religious life, by the ſtrict rules of logic; and ſo far as he hath time and capacity to review his old opinions, to re-examine all thoſe which are any ways doubtful, and to determine nothing without juſt evidence, he is likely to become ſo much the wiſer and the happier man; and, if divine grace aſſiſt him, ſo much the better Chriſtian. And though this cannot be done all at once, yet it may be done by prudent ſteps and degrees, till our whole ſet of opinions and principles be in time corrected and reformed, or at leaſt eſtabliſhed upon juſter foundations.

Direction II. "Endeavour that all your ideas of "thoſe objects, concerning which you paſs any "judgment, be clear and diſtinct, complete, com-"prehenſive, extenſive, and orderly, as far as you "have occaſion to judge concerning them." This is the ſubſtance of the laſt chapter of the firſt part of logic. The rules which direct our conceptions muſt be reviewed, if we would form our judgments aright. But if we will make haſte to judge at all adventures, while our ideas are dark and confuſed, and very imperfect

perfect, we ſhall be in danger of running into many miſtakes. This is like a perſon who would pretend to give the ſum total of a large account in arithmetic, without ſurveying all the particulars; or as a painter, who profeſſes to draw a fair and diſtinct landſkip in the twilight, when he can hardly diſtinguiſh a houſe from a tree.

Obſerve here, That this direction does not require us to gain clear, diſtinct, complete ideas of things in all their parts, powers, and qualities, in an abſolute ſenſe; for this belongs to God alone, and is impoſſible for us to attain: But it is expreſſed in a relative or limited ſenſe; that is, our ideas ſhould be clear, diſtinct, and comprehenſive, *&c.* at leaſt ſo far as we have occaſion at that time to judge concerning them. We may form many true and certain judgments concerning God, angels, animals, men, heaven, hell, &c. by thoſe partial and very imperfect conceptions of them to which we have attained, if we judge no farther concerning them than our conceptions reach.

We may have a clear and diſtinct idea of the exiſtence of many things in nature, and affirm that they do exiſt, though our ideas of their intimate eſſences and cauſes, their relations and manners of action, are very confuſed and obſcure. We may judge well concerning ſeveral properties of any being, though other properties are unknown; for perhaps we know not all the properties of any being whatſoever.

Sometimes we have clear ideas of the abſolute properties of an object; and we may judge of them with certainty, while the relative properties are very obſcure and unknown to us. So we may have a clear and juſt idea of the area of a parallelogram, without knowing what relation it bears to the area of a triangle, or a polygon: I may know the length of the diameter of a circle, without knowing what proportion it has to the circumference.

There are other things, whoſe external relative properties, with reſpect to each other, or whoſe relation

to

to us we know better than their own inward and abſolute properties, or their eſſential diſtinguiſhing attributes. We perceive clearly, that fire will warm or burn us, and will evaporate water; and that water will allay our thirſt, or quench the fire, though we know not the inward diſtinguiſhing particles, or prime eſſential properties of fire or water. We may know the King, and Lord Chancelor, and affirm many things of them in their legal characters, though we can have but a confuſed idea of their perſons or natural features, if we have never ſeen their faces. So the ſcripture has revealed God himſelf to us, as our Creator, Preſerver, Redeemer, and Sanctifier, and as the object of our worſhip, in clearer ideas than it has revealed many other abſtruſe queſtions which may be raiſed about his own divine eſſence or ſubſtance, his immenſity or omnipreſence.

This therefore is the general obſervation in order to guide our judgments, "That we ſhould not allow "ourſelves to form a judgment concerning things "farther than our clear and diſtinct ideas reach, "and then we are not in danger of error."

But there is one conſiderable objection againſt this rule, which is neceſſary to be anſwered; and there is one juſt and reaſonable exception, which is as needful to be mentioned.

The objection is this: May we not judge ſafely concerning ſome total or complete ideas, when we have a clear perception only of ſome parts or properties of them? May we not affirm, that all that is in God is eternal, or that all his unknown attributes are infinite, though we have ſo very imperfect an idea of God, eternity, and infinity? Again, May we not ſafely judge of particular objects, whoſe idea is obſcure, by a clear idea of the general? May I not affirm, That every unknown ſpecies of animals has inward ſprings of motion, becauſe I have a clear idea that theſe inward ſprings belong to an animal in general?

Anſwer. All thoſe ſuppoſed unknown parts, properties,

perties, or ſpecies, are clearly and diſtinctly perceived to be connected with, or contained in the known parts, properties, or general ideas, which we ſuppoſe to be clear and diſtinct, as far as we judge of them: And as we have no particular idea of thoſe unknown divine attributes, or unknown ſpecies of animals; ſo there is nothing particular affirmed concerning them beyond what belongs to the general idea of divine attributes or animals, with which I clearly and diſtinctly perceive them to be connected.

It may be illuſtrated in this manner. Suppoſe a long chain lies before me, whoſe neareſt links I ſee are iron rings, and I ſee them faſtened to a poſt near me, but the moſt diſtant links lie beyond the reach of my ſight, ſo that I know not whether they are oval or round, braſs or iron: Now I may boldly affirm, the whole length of this chain is faſtened to the poſt, for I have a clear idea that the neareſt links are thus faſtened, and a clear idea that the diſtinct links are connected with the neareſt, if I can draw the whole chain by one link.

Or thus: If two known ideas, A and B are evidently joined, or agree, and if C unknown be included in A, and alſo D unknown be included in B, then I may affirm that C and D are joined and agree: For I have a clear perception of the union of the two known ideas A and B; and alſo a clear perception of the connection of the unknown ideas with the known. So that clear and diſtinct ideas muſt ſtill abide as a general neceſſary qualification, in order to form a right judgment: And indeed it is upon this foot that all ratiocination is built, and the concluſions are thus formed, which reduce things unknown from things known.

Yet it ſeems to me, that there is one juſt limitation or exception to this general rule of judgment, as built on clear and diſtinct ideas, and it is this.

Exception. In matter of mere teſtimony, whether human

human or divine, there is not always a neceſſity of clear and diſtinct ideas of the things which are believed. Though the evidence of propoſitions, which are entirely formed by ourſelves, depends on the clearneſs and diſtinctneſs of thoſe ideas of which they are compoſed, and on our own clear perception of their agreement or diſagreement, yet we may juſtly aſſent to propoſitions formed by others, when we have neither a very clear conception in ourſelves of the true ideas contained in the words, nor how they agree or diſagree; provided always, that we have a clear and ſufficient evidence of the credibility of the perſons who inform us.

Thus, when we read in ſcripture the great doctrines of the deity of Chriſt, of the union of the divine and human natures in him, of the divine agency of the bleſſed Spirit, that the Son is the brightneſs of the Father's glory, that all things were created by him and for him, that the Son ſhall give up the kingdom to the Father, and that God ſhall be all in all; we may ſafely believe them: For, though the ideas of theſe objects themſelves are not ſufficiently clear, diſtinct, and perfect, for our own minds to form theſe judgments or propoſitions concerning them, yet we have a clear and diſtinct perception of God's revealing them, or that they are contained in ſcripture; and this is ſufficient evidence to determine our aſſent.

The ſame thing holds true in ſome meaſure, where credible human teſtimony aſſures us of ſome propoſitions, while we have no ſufficient ideas of the ſubject and predicate of them to determine our aſſent. So when an honeſt and learned mathematician aſſures a ploughman that the threee angles of a triangle are equal to two right angles, or that the ſquare of the hypotenuſe of a right-angled triangle is equal the ſum of the ſquares of the two ſides; the ploughman, who has but confuſed ideas of theſe things, may firmly and ſafely believe theſe propoſitions, upon

pon the ſame ground becauſe he has evidence of the ſkill and faithfulneſs of his informer *.

Direction

* Perhaps ſome may object againſt this repreſentation of things, and ſay, that, "We cannot properly be ſaid to believe "a propoſition any further than we ourſelves have ideas un- "der the terms: Therefore, if we have no ideas under the "terms, we believe nothing but the connexion of words or "ſounds: and, if we have but obſcure and inadequate ideas "under the terms, then we partly believe a connexion of "things, and partly a connexion of ſounds. But that we can- "not properly be ſaid to believe the propoſition, for our faith "can never go beyond our ideas."

Now, to ſet this matter in a clear light, I ſuppoſe that every propoſition which is propoſed to my aſſent, is a ſentence made up of terms which have ſome ideas under them known or unknown to me. I confeſs, if I believe there are no ideas at all under the terms, and there is nothing meant by them, then indeed, with regard to me, it is the mere joining of ſounds: But if, for inſtance, a ploughman has credible information from an honeſt and ſkilful mathematician, that an elipſis is made by the ſection of a cone, he believes the propoſition, or he believes the ſentence is true, as it is made up of terms which his informant underſtands, though the ideas be unknown to him; that is, he believes there are ſome ideas which his informant has under theſe words which are really connected. And, I think, this may be called believing the propoſition, for it is a belief of ſomething more than the mere joining of ſounds; it is a belief of the real connexion of ſome unknown ideas belonging to thoſe ſounds; and in this ſenſe a man may be ſaid to believe the truth of a propoſition, which he doth not underſtand at all.

With more reaſon ſtill may we be ſaid to believe a propoſition upon credible teſtimony, if we have ſome ſort of ideas under the terms, though they are but partial or inadequate and obſcure; ſuch as, Divine anſwers were given by Urim and Thummin: For, ſince it is purely upon teſtimony we believe the known parts of the ideas ſignified by thoſe words to be connected, upon the ſame teſtimony we may alſo believe all the unknown parts of the ideas ſignified by thoſe words to be connected, namely, becauſe our informant is knowing and faithful. And in this ſenſe we may juſtly be ſaid to believe a propoſition of ſcripture entirely, which we underſtand but very imperfectly, becauſe God who reveals it is knowing and faithful in perfection.

And indeed, unleſs this repreſentation of the matter be allowed, there are but very few propoſitions in the world, even in human things, to which we can give an entire aſſent, or which

Direction III. " When you have obtained as clear " and comprehenſive ideas as needful, both of " the

which we may be ſaid either to know, or believe, becauſe there is ſcarce any thing on earth of which we have an adequate, and moſt perfect idea. And it is evident, that in divine things there is ſcarce any thing which we could either know or believe, without this allowance: For, though reaſon and revelation join to inform me, that God is holy, how exceeding inadequate are my ideas of God, and of his holineſs? Yet I may boldly and entirely aſſent to this whole propoſition, ſince I am ſure that every known and unknown idea ſignified by the term God is connected with the ideas of the term holineſs, becauſe reaſon partly informs me, but eſpecially becauſe the divine teſtimony which has connected them is certainly credible.

I might argue upon this head perhaps more forcibly from the doctrine of God's incomprehenſibleneſs. If we could believe nothing but what we have ideas of, it would be impoſſible for us to believe that God is incomprehenſible: For this implies in it a belief that there are ſome unknown ideas belonging to the nature of God. Therefore we both believe and profeſs that ſomething concerning unknown ideas, when we believe and profeſs that God is incomprehenſible.

I perſuade myſelf that moſt of thoſe very perſons who object againſt my repreſentation of things, will yet readily confeſs, they believe all the propoſitions in ſcripture, rather than declare they do not believe ſeveral of them: though they muſt acknowledge that ſeveral of them are far above their underſtanding, or that they have ſcarce any ideas of the true ſenſe of them. And therefore, where propoſitions derived from credible teſtimony are made up of dark or inadequate ideas, I think it is much more proper to ſay we believe them, than that we do not believe them, leſt we cut off a multitude of the propoſitions of the bible from our aſſent of faith.

Yet let it be obſerved here, that when we believe a propoſition on mere teſtimony, of which we have no ideas at all, we can only be ſaid to give a general implicit aſſent to the truth of that propoſition, without any particular knowledge of, or explicit aſſent to the ſpecial truth contained in that propoſition: And this our implicit aſſent is of very little uſe, unleſs it be to teſtify our belief of the knowledge and veracity of him that informs us.

As our ideas of a propoſition are more or leſs clear and adequate, as well as juſt and proper, ſo we do explicitly aſſent more or leſs to the particular truth contained in that propoſition. And our aſſent hereby becomes more or leſs uſeful for the increaſe of our knowledge, or the direction of our practice.

When

" the ſubject and predicate of a propoſition, then " compare thoſe ideas of the ſubject and predicate " together with the utmoſt attention, and obſerve " how far they agree, and wherein they differ." Whether the propoſition may be affirmed abſolutely or relatively, whether in whole or in part, whether univerſally or particularly, and then under what particular limitations. Turn theſe ideas about in your mind, and take a view of them on all ſides, juſt as a maſon would do to ſee whether two hewn ſtones exactly ſuit each other in every part, and are fit to be joined in erecting a carved or fluted pillar.

Compare the whole ſubject with the whole predicate in their ſeveral parts: Take heed in this matter that you neither add to, nor diminiſh the ideas contained in the ſubject or in the predicate; for ſuch an inadvertence or miſtake will expoſe you to great error in judgment.

Direction IV. " Search for evidence of truth " with diligence and honeſty, and be heartily ready " to receive evidence, whether for the agreement " or diſagreement of ideas."

Search with diligence; ſpare no labour in ſearching for the truth, in due proportion to the importance of the propoſition. Read the beſt authors who have writ on that ſubject; conſult your wiſe and learned friends in converſation; and be not unwilling

When divine teſtimony plainly propoſes to our faith ſuch a propoſition whereof we have but obſcure, doubtful, and inadequate ideas, we are bound implicitly to believe the truth of it, as expreſſed in thoſe terms, in order to ſhew our ſubmiſſion to God who revealed it, as a God of perfect knowledge and veracity: But it is our duty to uſe all proper methods to obtain a farther and explicit knowledge of the particular truth contained in the propoſition, if we would improve by it either in knowledge or virtue. All neceſſary rules of grammar and criticiſm ſhould be employed to find out the very ideas that belong to thoſe words, and which were deſigned by the divine ſpeaker or writer. Though we may believe the truth of a propoſition which we do not underſtand, yet we ſhould endeavour to underſtand every propoſition which we believe to be true.

unwilling to borrow hints toward your improvement from the meaneſt perſon, nor to receive any glimpſe of light from the moſt unlearned. Diligence and humility is the way to thrive in the riches of the underſtanding, as well as in gold or ſilver. Search carefully for the evidence of truth, and dig for wiſdom as for hid treaſure.

Search with a ſteady honeſty of ſoul, and a ſincere impartiality, to find the truth. Watch againſt every temptation that might bribe your judgment, or warp it aſide from truth. Do not indulge yourſelf to wiſh any unexamined propoſition were true or falſe. A wiſh often perverts the judgment, and tempts the mind ſtrangely to believe upon ſlight evidence whatſoever we wiſh to be true or falſe.

Direction V. " Since the evidence of the agree-
" ment or diſagreement of two ideas is the ground
" of our aſſent to any propoſition, or the great
" criterion of truth; therefore we ſhould ſuſpend
" our judgment, and neither affirm nor deny till
" this evidence appear."

This direction is different from the ſecond; for, though the evidence of the agreement or diſagreement of two ideas moſt times depends on the clearneſs and diſtinctneſs of the ideas themſelves, yet it does not always ariſe hence. Teſtimony may be a ſufficient evidence of the agreement or diſagreement of two obſcure ideas, as we have ſeen juſt before in the exception under the ſecond direction. Therefore, though we are not univerſally and in all caſes bound to ſuſpend our judgment till our ideas of the objects themſelves are clear and diſtinct, yet we muſt always ſuſpend our judgment, and withhold our aſſent to, or denial of any propoſition, till ſome juſt evidence appear of its truth or falſhood. It is an impatience of doubt and ſuſpence, a raſhneſs and precipitance of judgment, and haſtineſs to believe ſomething on one ſide or the other, that plunges us into many errors.

This direction to delay and to ſuſpend our aſſent is more particularly neceſſary to be obſerved, when ſuch propoſitions offer themſelves to us as are ſupported by education, authority, cuſtom, inclination, intereſt, or other powerful prejudices: for our judgment is led away inſenſibly to believe all that they dictate; and, where prejudices and dangers of error are multiplied, we ſhould ſet the ſtricter guard upon our aſſent.

Yet remember the caution or limitation here which I gave under the firſt direction, namely, that this is not to be too ſtrictly applied to in matters of daily practice, either in human life or religion; but, when we conſider ourſelves as philoſophers, or ſearchers after truth, we ſhould always withhold our aſſent where there is not juſt evidence: And, as far and as faſt as we can, in a due conſiſtence with our daily neceſſary duties, we ſhould alſo reform and adjuſt all our principles and practices, both in religion and the civil life, by theſe rules.

Direction VI. "We muſt judge of every propo-
" ſition by thoſe proper and peculiar mediums or
" means, whereby the evidence of it is to be ob-
" tained, whether it be ſenſe, conſciouſneſs, intel-
" ligence, reaſon, or teſtimony. All our faculties
" and powers are to be employed in judging of their
" proper objects."

If we judge of ſounds, colours, odours, ſapors, the ſmoothneſs, roughneſs, ſoftneſs, or hardneſs of bodies, it muſt be done by the uſe of our ſenſes: But then we muſt take head that our ſenſes are well diſpoſed, as ſhall be ſhewn afterward.

And ſince our ſenſes in their various exerciſes are in ſome caſes liable to be deceived, and more eſpecially when by our eyes or our ears we judge of the figure, quantity, diſtance, and poſition of objects that are afar off, we ought to call our reaſon in to the aſſiſtance of our ſenſes, and correct the errors of one ſenſe by the help of another.

It is by the powers of ſenſe and reaſon joined together, that we muſt judge philoſophically of the inward nature, the ſecret properties and powers, the cauſes and effects, the relations and proportions, of a thouſand corporeal objects which ſurround us on earth, or are placed at a diſtance in the heavens. If a man, on the one hand, confines himſelf only to ſenſible experiments, and does not exerciſe reaſon upon them, he may ſurpriſe himſelf and others with ſtrange appearances, and learn to entertain the world with ſights and ſhews, but will never become a philoſopher: And, on the other hand, if a man impriſon himſelf in his cloſet, and employ the moſt exquiſite powers of reaſon to find out the nature of things in the corporeal world, without the uſe of his ſenſes, and the practice of experiments, he will frame to himſelf a ſcheme of the chimeras inſtead of true philoſophy. Hence came the invention of ſubſtantial forms and qualities, of *materia prima* and *privation*, with all the inſignificant names uſed by the Peripatetic writers; and it was for want of more experiments that the great Deſcartes failed in ſeveral parts of his philoſophical writings.

In the abſtracted and ſpeculative parts of the mathematics, which treat of quantity and number, the faculty of reaſon muſt be chiefly employed to perceive the relation of various quantities, and draw certain and uſeful concluſions; but it wants the aſſiſtance of ſenſe alſo to be acquainted with lines, angles, and figures. And in practical mathematics our ſenſes have ſtill greater employment.

If we would judge of the pure properties and actions of the mind, of the nature of ſpirits, their various perceptions and powers, we muſt not inquire of our eyes and our ears, nor the images or ſhapes laid up in the brain, but we muſt have recourſe to our own conſciouſneſs of what paſſes within our own mind.

If we are to paſs a judgment upon any thing that relates to ſpirits in a ſtate of union with animal nature, and the mixt properties of ſenſation, fancy, appetite, paſſion, pleaſure and pain, which ariſe thence, we muſt conſult our own ſenſations, and the other powers which we find in ourſelves conſidered as men or creatures made up of a mind and an animal, and by juſt reaſonings deduce proper conſequences, and improve our knowledge in theſe ſubjects.

If we have occaſion to judge concerning matters done in paſt ages, or in diſtant countries, and where we ourſelves cannot be preſent, the powers of ſenſe and reaſon, for the moſt part, are not ſufficent to inform us, and we muſt therefore have recourſe to the teſtimony of others: And this is either divine or human.

In matters of mere human prudence, we ſhall find the greateſt advantage by making wiſe obſervations on our own conduct, and the conduct of others, and a ſurvey of the events attending ſuch conduct. Experience in this caſe is equal to a natural ſagacity, or rather ſuperior. A treaſure of obſervations and experiences, collected by wiſe men, is of admirable ſervice here. And perhaps there is nothing in the world of this kind equal to the ſacred book of Proverbs, even if we look on it as a mere human writing.

In queſtions of natural religion, we muſt exerciſe the faculty of reaſon which God hath given us; and, ſince he has been pleaſed to afford us his word, we ſhould confirm and improve, or correct our reaſonings on this ſubject by the divine aſſiſtance of the Bible.

In matters of revealed religion, that is, Chriſtianity, Judaiſm, &c. which we could never have known by the light of nature, the word of God is our only foundation and chief light; though here our reaſon muſt be uſed both to find out the true meaning of God in his word, and to derive juſt inferences from what

what God has written, as well as to judge of the credentials whereby divine teſtimony is diſtinguiſhed from mere human teſtimony, or from impoſture.

As divine revelation can never contradict right reaſon, for they are two great lights given us by our Creator for our conduct, ſo reaſon ought by no means to aſſume to itſelf a power to contradict divine revelation.

Though revelation be not contrary to reaſon, yet there are four claſſes wherein matters of revelation may be ſaid to riſe above, or go beyond our reaſon.

1. When revelation aſſerts two things of which we have clear ideas, to be joined, whoſe connection or agreement is not diſcoverable by reaſon; as when ſcripture informs us, that *The dead ſhall riſe*, that *The earth ſhall be burnt up*, and the *Man Chriſt Jeſus ſhall return from heaven*; none of theſe things could ever be found out or proved by reaſon.

2. When revelation affirms any propoſition, while reaſon has no clear and diſtinct ideas of the ſubject or of the predicate; as, *God created all things by Jeſus Chriſt: By the* Urim *and* Thummim *God gave forth divine oracles.* The predicate of each of theſe propoſitions is to us an obſcure idea, for we know not what was the peculiar agency of Jeſus Chriſt when God the Father created the world by him; nor have we any clear and certain conception what the Urim and Thummim were, nor how God gave anſwers to his people by them.

3. When revelation, in plain and expreſs language, declares ſome doctrine which our reaſon at preſent knows with evidence and certainty, how or in what ſenſe to reconcile to ſome of its own principles: as, that the child Jeſus is the mighty God, Iſa. ix. 6. which propoſition carries a ſeeming oppoſition to the unity and ſpirituality of the Godhead, which are principles of reaſon.

4. When two propoſitions or doctrines are plainly aſſerted by divine revelation, which our reaſon at

preſent knows not how or in what ſenſe, with evidence and certainty, to reconcile with one another; as, *The Father is the only true God*, John xvii. 3. and yet Chriſt is over all, God bleſſed for ever, Rom. ix. 5.

Now divine revelation having declared all theſe propoſitions, reaſon is bound to receive them, becauſe it cannot prove them to be utterly inconſiſtent or impoſſible, though the ideas of them may be obſcure, though we ourſelves ſee not the rational connexion of them, and though we know not certainly how to reconcile them. In theſe caſes, reaſon muſt ſubmit to faith; that is, we are bound to believe what God aſſerts, and wait till he ſhall clear up that which ſeems dark and difficult, and till the myſteries of faith ſhall be farther explained to us either in this world or the world to come *, and reaſon itſelf dictates the ſubmiſſion.

Direction VII. "It is very uſeful to have ſome "general principles of truth ſettled in the mind, "whoſe evidence is great and obvious, that they "may be always ready at hand to aſſiſt us in judging of the great variety of things which occur. "Theſe may be called firſt notions, or fundamental "principles; for, though many of them are deduced "from each other, yet moſt or all of them may "be called principles when compared with a thouſand other judgments which we form under the "regulation and influence of theſe primary propoſitions."

Every art and ſcience, as well as the affairs of civil life and religion, have peculiar principles of this kind belonging to them. There are metaphyſical, phyſical, mathematical, political, economical, medicinal, theological, moral and prudential principles of judgment. It would be too tedious to give a ſpecimen of them all in this place. Thoſe which are of the moſt univerſal uſe to us, both as men and as Chriſtians, may be found in the following chapter among

* See ſomething more on this ſubject, Direct. II. preceding, and chap. v. ſect 6.

among the rules of judgment about particular objects.

Direction VIII. " Let the degrees of your assent " to every proposition bear an exact proportion " to the different degrees of evidence." Remember this is one of the greatest principles of wisdom that man can arrive at in this world, and the best human security against dangerous mistakes in speculation or practice.

In the nature of things of which our knowledge is made up, there is infinite variety in their degrees of evidence. And, as God hath given our minds a power to suspend their assent till the evidence be plain, so we have a power to receive things which are proposed to us with a stronger or weaker belief, in infinite variety of degrees, proportionable to their evidence. I believe that planets are inhabited, and I believe that the earth rolls among them yearly round the sun; but I do not believe both these propositions with an equal firmness of assent, because the arguments for the latter are drawn from mathematical observations; but the arguments for the former are but probable conjectures and moral reasonings. Yet neither do I believe either these propositions so firmly, as I do that the earth is about twenty four thousand miles round, because the mathematical proof of this is much easier, plainner and stronger. And yet farther, when I say that the earth was created by the power of God, I have still a more infallible assurance of this than of all the rest, because reason and scripture join to assure me of it.

Direction IX. " Keep your mind always open to " receive truth, and never set limits to your own " improvement. Be ready always to hear what " may be objected against your favourite opinions, " and those which have had longest possession of " your assent. And if there should be any new " and uncontroulable evidence brought against " these old or beloved sentiments, do not wink " your eyes fast against the light, but part with

" any thing for the ſake of truth: Remember " when you overcome an error you gain truth; the " victory is on your ſide, and the advantage is all " your own."

I confeſs thoſe grand principles of belief and practice which univerſally influence our conduct, both with regard to this life and the life to come, ſhould be ſuppoſed to be well ſettled in the firſt years of our ſtudies; ſuch as, the exiſtence and providence of God, the truth of Chriſtianity, the authority of ſcripture, the great rules of morality, &c. We ſhould avoid a light fluttering genius, ever ready to change our foundations, and to be carried about with every wind of doctrine. To guard againſt which inconvenience, we ſhould labour with earneſt diligence and fervent prayer, that our moſt fundamental and important points of belief and practice may be eſtabliſhed upon juſt grounds of reaſon and ſcripture, when we come to years of diſcretion, and fit to judge for ourſelves in ſuch important points. Yet, ſince it is poſſible that the folly or prejudices of younger years may have eſtabliſhed perſons in ſome miſtaken ſentiments, even in very important matters, we ſhould always hold ourſelves ready to receive any new advantage toward the correction or improvement even of our eſtabliſhed principles, as well as opinions of leſſer moment.

CHAP. V.

Special Rules to direct us in judging of particular Objects.

IT would be endleſs to run through all thoſe particular objects concerning which we have occaſion to paſs a judgment at one time or another. Things of the moſt frequent occurrence, of the wideſt extent, and of the greateſt importance, are the

the objects and exerciſes of ſenſe, of reaſon, and ſpeculation; the matters of morality, religion, and prudence, of human and divine teſtimony, together with the eſſays of reaſoning upon things paſt and future. Special rules relating to all theſe will be the ſubject of the following ſections.

SECT. I.

Principles and Rules of Judgment concerning the Objects of SENSE.

THOUGH our ſenſes are ſometimes liable to be deceived, yet when they are rightly diſpoſed, and fitly exerciſed about their proper objects with the juſt aſſiſtance of reaſon, they give us ſufficient evidence of truth.

This may be proved by an argument drawn from the wiſdom, goodneſs, and faithfulneſs of God our Creator. It was he gave us our ſenſes, and he would not make us of ſuch a conſtitution as to be liable to perpetual deception, and unavoidable error, in uſing theſe faculties of ſenſe in the beſt manner we are capable of, about thoſe very things which are the proper object of them.

This may be proved alſo by the ill conſequences that would follow from the ſuppoſition of the contrary. If we could have no certainty of the dictates of our ſenſes, we could never be ſure of any of the common affairs and occurrences of life. Men could not tranſact any of their civil or moral concerns with any certainty of juſtice; nor indeed could we eat or drink, walk or move, with ſafety. Our ſenſes direct us in all theſe.

Again, the matters of religion depend in ſome meaſure upon the certainty of the dictates of ſenſe; for faith comes by hearing; and it is to our ſenſes that God appeals in working miracles to prove his own revelation. Now if, when our eyes and ears, and

other organs of ſenſe are rightly diſpoſed and exerciſed about their proper objects, they were always liable to be deceived, there could be no knowledge of the goſpel, no proof of divine revelation by viſions, voices, or miracles.

Our ſenſes will diſcover things near us and round about us, which are neceſſary for our preſent ſtate, with ſufficient exactneſs; and things diſtant alſo, ſo far as they relate to our neceſſary uſe of them.

Nor is there need of any more accurate rules for the uſe of our ſenſes, in the judgment of all the common affairs of life, or even of miraculous and divine operations, than the vulgar part of mankind are ſufficiently acquainted with by nature, and by their own daily obſervations.

But if we would expreſs theſe rules in a more exact manner, how to judge by the dictates of our ſenſes, they ſhould be repreſented thus:

1. We muſt take care that the organs of our ſenſes be rightly diſpoſed, and not under the power of any diſtemper or conſiderable decay; as, for inſtance, that our eyes are not tinctured with the jaundice, when we could judge of colours, leſt we pronounce them all yellow: That our hands are not burning in a fever, nor benumbed with froſt or the palſy, when we would judge of the heat or coldneſs of any object: That our palate be not vitiated by any diſeaſe, or by ſome other improper taſte, when we would judge of the true taſte of any ſolid or liquid. This direction relates to all our ſenſes; but the following rules chiefly refer to our ſight.

2. We muſt obſerve whether the object be at a proper diſtance; for, if it be too near or too far off, our eyes will not ſufficiently diſtinguiſh many things which are properly the objects of ſight; and therefore (if poſſible) we muſt make nearer approaches to the object, or remove farther from it, till we have obtained that due diſtance which gives us the cleareſt perception.

3. We

3. We muſt not employ our ſight to take a full ſurvey at once of objects that are too large for it; but we muſt view them by parts, and then judge of the whole: Nor muſt our ſenſes judge of objects too ſmall, for ſome things which appear through glaſſes to be really and diſtinctly exiſtent, are either utterly inviſible, or greatly confuſed, when we would judge of them by the naked eye.

4. We muſt place ourſelves in ſuch a poſition toward the object, or place the object in ſuch a poſition toward our eye, as may give us the cleareſt repreſentation of it; for a different poſition greatly alters the appearance of the ſhape of bodies. And for this reaſon we ſhould change the poſition both of the eye and the object in ſome caſes, that by viewing the object in ſeveral appearances, we may paſs a more compleat and certain judgment concerning it.

5. We muſt conſider what the medium is by which objects are repreſented to our ſenſes; whether it be thinner or thicker; whether it be air or vapour, or water, or glaſs, *&c.* whether it be duly enlightened or duſky, whether it reflect or refract, or only tranſmit the appearance of the object; and whether it be tinctured with any particular colour: Whether it be moving or at reſt.

6. We muſt ſometimes uſe other helps to aſſiſt our ſenſes; and, if we make uſe of glaſſes, we muſt make all juſt allowances for the thickneſs or thinneſs of them, for the clearneſs or dulneſs, for the ſmoothneſs or roughneſs, for the plainneſs, the convexity or concavity of them, and for the diſtance at which theſe glaſſes are placed from the eye, or from the object, (or from one another, if there be two or more glaſſes uſed), and all this according to the rules of art. The ſame ſort of caution ſhould be uſed alſo in mediums which aſſiſt the hearing, ſuch as ſpeaking-trumpets, hearing-trumpets, &c.

7. If the object may be propoſed to more ſenſes than one, let us call in the ſubſtance of ſome other ſenſes to examine it, and this will increaſe the evidence of what one ſenſe dictates. For example, Our ear may aſſiſt our eye in judging of the diſtance of bodies which are both viſible and ſonorous, as an exploded cannon, or a cloud charged with thunder. Our feeling may aſſiſt our ſight in judging of the kind, the ſhape, ſituation, or diſtance of bodies that are near at hand, as whether a garment be ſilk or ſtuff, &c. So, if I both ſee, hear, and embrace my friend, I am ſure he is preſent.

8. We ſhould alſo make ſeveral trials, at ſome diſtant times, and in different circumſtances, comparing former experiments with latter, and our own obſervations with thoſe of other perſons.

It is by ſuch methods as theſe that modern philoſophy has been ſo greatly improved by the uſe of ſenſible experiments.

SECT. II.

Principles and Rules of Judgment in Matters of REASON *and* SPECULATION.

IT is by reaſon we judge both in matters of ſpeculation and practice; there peculiar rules which relate to things practical, whether they be matters of religion, morality, or prudence; yet many things in this ſection may be applied to practical inquiries and matters of faith, though it chiefly relates to knowledge, or ſpeculations of reaſon.

1. Whatſoever clear ideas we can join together without inconſiſtency, are to be counted poſſible, becauſe almighty power can make whatſoever we can conceive.

2. From the mere poſſibility of a thing we cannot infer its actual exiſtence; nor from the non-exiſtence of it we infer its impoſſibility.

Note,

Note, The idea of God ſeems to claim an exemption from this general rule; for, if he be poſſible, he certainly exiſts, becauſe the very idea includes eternity; and he cannot begin to be: If he exiſt not, he is impoſſible for the very ſame reaſon.

3. Whatſoever is evidently contained in the idea of any thing, may be affirmed of that thing with certainty. Reaſon is contained in the idea of a man; and exiſtence is contained in the idea of God; and therefore we may affirm God exiſts, and man is reaſonable.

4. It is impoſſible that the ſame thing ſhould be, and not be at the ſame time, and in the ſame reſpect. Thence it follows, that two contradictory ideas cannot be joined in the ſame part of the ſame ſubject, at the ſame time, and in the ſame reſpects: Or that two contradictory propoſitions can never be both true.

5. The more we converſe with any ſubjects in its various properties, the better knowledge of it we are likely to attain; and by frequent and repeated inquiries and experiments, reaſonings and converſations about it, we confirm our true judgments of that thing, and correct our former miſtakes.

6. Yet, after our utmoſt inquiries, we can never be aſſured by reaſon, that we know all the powers and properties of any finite being.

7. If finite beings are not adequately known by us, much leſs the things infinite: For it is of the nature of a finite mind not to be able to comprehend what is infinite.

8. We may judge and argue very juſtly and certainly concerning infinities, in ſome parts of them, or ſo far as our ideas reach, through the infinity of them hath ſomething incomprehenſible in it. And this is built on the general rule following, namely,

9. Whatſoever is ſufficiently clear and evident, ought not to be denied, though there are other things belonging to the ſame ſubject which cannot be comprehended. I may affirm many things with certainty

certainty concerning human ſouls, their union with bodies, concerning the diviſibility of matter, and the attributes of God, though many other things relating to them are all darkneſs to us.

10. If any opinion propoſed has either no arguments, or equal arguments for and againſt it, we muſt remain in perfect ſuſpence about it, till convincing evidence appear on one ſide.

11. Where preſent neceſſity of action does not conſtrain us to determine, we ſhould not immediately yield up our aſſent to mere probable arguments, without due reſerve, if we have any reaſonable hope of obtaining greater light and evidence on one ſide or the other: for, when the balance of the judgment once reſigns its equilibrium or neutrality to a mere probable argument, it is too ready to ſettle itſelf on that ſide, ſo that the mind will not eaſily change that judgment, though bright and ſtrong evidence appear afterwards on the other ſide.

12. Of two opinions, if one has unanſwerable difficulties attending it, we muſt not reject it immediately, till we examine whether the contrary opinion has not difficulties as unanſwerable.

13. If each opinion has objections againſt it, which we cannot anſwer, or reconcile, we ſhould rather embrace that which has the leaſt difficulties in it, and which has the beſt arguments to ſupport it: And let our aſſent bear proportion to the ſuperior evidence.

14. If any doctrine hath very ſtrong and ſufficient light and evidence to command our aſſent, we ſhould not reject it becauſe there is an objection or two againſt it which we are not able to anſwer; for, upon this foot a common Chriſtian would be baffled out of every article of his faith, and muſt renounce even the dictates of his reaſon and his ſenſes; and the moſt learned man perhaps would hold but very few of them faſt: For ſome objections which attend the ſacred doctrine of the eternity and the omnipreſence

of

of God, and the philoſophical doctrines of light, atoms, ſpace, motion, &c. are hardly ſolvable to this day.

15. Where two extremes are propoſed, either in matters of ſpeculation or practice, and neither of them has certain and convincing evidence, it is generally ſafeſt to take the middle way. Moderation is more likely to come near the truth than doubtful extremes. This is an excellent rule to judge of the characters and value of the greateſt part of perſons and things; for nature ſeldom deals in ſuperlatives. It is a good rule alſo by which to form our judgment in many ſpeculative controverſies; a reconciling medium in ſuch caſes does often beſt ſecure truth as well as peace.

16. When two different propoſitions have each a very ſtrong and cogent evidence, and do not plainly appear inconſiſtent, we may believe both of them, though we cannot at preſent ſee the way to reconcile them. Reaſon, as well as our own conſciouſneſs, aſſure us, that the will of man is free, and that multitudes of human actions are in that reſpect contingent; and yet reaſon and ſcripture aſſure us, that God foreknows them all; and this implies a certain fatality. Now, though learned men have not to this day hit on any ſo clear and happy method as is deſired to reconcile theſe propoſitions, yet ſince we do not ſee a plain inconſiſtency in them, we juſtly believe them both, becauſe their evidence is great.

17. Let us not therefore too ſuddenly determine in difficult matters, that two things are utterly inconſiſtent: For there are many propoſitions which may appear inconſiſtent at firſt, and yet afterwards we find their conſiſtency, and the way of reconciling them may be made plain and eaſy: As alſo, there are other propoſitions which may appear conſiſtent at firſt, but after due examination we find their inconſiſtency.

18.

18. For the ſame reaſon, we ſhould not call thoſe difficulties utterly inſolvable, or thoſe objections unanſwerable, which we are not preſently able to anſwer: Time and diligence may give farther light.

19. In ſhort, if we will ſecure ourſelves from error, we ſhould not be too frequent or haſty in aſſerting the certain conſiſtency or inconſiſtency, the abſolute univerſality, neceſſity, or impoſſibility of things, where there is not the brighteſt evidence. He is but a young and raw philoſopher, who, when he ſees two particular ideas evidently agree, immediately aſſerts them to agree univerſally, to agree neceſſarily, and that it is impoſſible it ſhould be otherwiſe. Or when he ſees evidently that two particular ideas happen to diſagree, he preſently aſſerts their conſtant and natural inconſiſtency, their utter impoſſibility of agreement, and calls every thing contrary to his opinion abſurdity and nonſenſe. A true philoſopher will affirm or deny with much caution and modeſty, unleſs he has thoroughly examined and found the evidence of every part of his aſſertion exceeding plain.

20. Let us have a care of building our aſſurance of any important point of doctrine upon one ſingle argument, if there are more to be obtained. We ſhould not ſlight and reject all other arguments which ſupport the ſame doctrine, leſt if our favourite argument ſhould be refuted, and fail us, we ſhould be tempted to abandon that important principle of truth. I think this was a very culpable practice in Deſcartes, and ſome of his followers, who, when he had found out the argument for the exiſtence of God, derived from the idea of a moſt perfect and ſelf-exiſtent being, he ſeemed to deſpiſe and abandon all other arguments againſt Atheiſm.

21. If we happen to have our chief arguments for any opinion refuted, we ſhould not immediately give up the opinion itſelf; for perhaps it may be a truth

ſtill,

ſtill, and we may find it to be juſtly ſupported by other arguments, which we might once think weaker, or perhaps by new arguments which we knew not before.

22. We ought to eſteem that to be ſufficient evidence of a propoſition, where both the kind and the force of the arguments or proofs are as great as the nature of the thing admits, and as the neceſſity or exigence of the caſe requires. So, if we have a credible and certain teſtimony that Chriſt roſe from the dead, it is enough; we are not to expect mathematical or ocular demonſtration for it, at leaſt in our day.

23. Though we ſhould ſeek what proofs may be attained of any propoſition, and we ſhould receive any number of arguments which are juſt and evident for the confirmation of the ſame truth, yet we muſt not judge of the truth of any propoſition by the number of arguments which are brought to ſupport it, but by the ſtrength and weight of them: A building will ſtand firmer and longer on four large pillars of marble, than on ten of ſand, or earth, or timber.

24. Yet where certain evidence is not to be found or expected, a conſiderable number of probable arguments carry great weight with them even in matters of ſpeculation. That is a probable hypotheſis in philoſophy or in theology, which goes fartheſt toward the ſolution of many difficult queſtions ariſing on any ſubject.

SECT. III.

Principles and Rules of Judgment in Matters of MORALITY *and* RELIGION.

HERE it may be proper, in the firſt place, to mention a few definitions of words or terms. By matters of morality and religion, I mean thoſe things

things which relate to our duty to God, ourſelves, or our fellow creatures.

Moral good, or virtue, or holineſs, is an action or temper conformable to the rule of our duty. Moral evil, or vice, or ſin, is an action or temper unconformable to the rule of our duty, or a neglect to fulfil it.

Note, The words vice or virtue, chiefly imply the relation of our actions to men and this world. Sin and holineſs, rather imply their relation to God and the other world.

Natural good is that which gives us pleaſure or ſatisfaction. Natural evil is that which gives us pain or grief.

Happineſs conſiſts in the attainment of the higheſt and moſt laſting natural good. Miſery conſiſts in ſuffering the higheſt and moſt laſting natural evil; that is, in ſhort, heaven or hell.

Though this be a juſt account of perfect happineſs and perfect miſery, yet whereſoever pain overbalances pleaſure, there is a degree of miſery; and whereſoever pleaſure overbalances pain, there is a degree of happineſs.

I proceed now to lay down ſome principles and rules of judgment in matters of morality and religion.

1. The will of our Maker, whether diſcovered by reaſon or revelation, carries the higheſt authority with it, and is therefore the higheſt rule of duty to intelligent creatures; a conformity or nonconformity to it determines their actions to be morally good or evil.

2. Whatſoever is really an immediate duty toward ourſelves, or toward our fellow-creatures, is more remotely a duty to God; and therefore in the practice of it we ſhould have an eye to the will of God as our rule, and to his glory as our end.

3. Our wiſe and gracious Creator has cloſely united our duty and our happineſs together; and has connected ſin, or vice, and puniſhment; that is, he

he has ordained that the higheſt natural good and evil, ſhould have a cloſe connexion with moral good and evil, and that both in the nature of things, and by his own poſitive appointment.

4. Conſcience ſhould ſeek all due information, in order to determine what is duty, and what is ſin, becauſe happineſs and miſery depend upon it.

5. On this account our inclination to preſent temporal good, and our averſion to preſent temporal evil, muſt be wiſely overbalanced by the conſideration of future and eternal good or evil, that is, happineſs or miſery. And for this reaſon we ſhould not omit a duty, or commit a ſin, to gain any temporal good, or to avoid any temporal evil.

6. Though our natural reaſon in a ſtate of innocence might be ſufficient to find out thoſe duties which were neceſſary for an innocent creature, in order to abide in the favour of his Maker, yet in a fallen ſtate, our natural reaſon is by no means ſufficient to find out all that is neceſſary to reſtore a ſinful creature to the divine favour.

7. Therefore God hath condeſcended in various ages of mankind, to reveal to ſinful men what he requires of them in order to their reſtoration, and has appointed in his word ſome peculiar matters of faith and practice, in order to their ſalvation. This is called revealed religion; as the things knowable concerning God and our duty by the light of nature are called natural religion.

8. There are alſo many parts of morality and natural religion, or many natural duties relating to God, to ourſelves, and to our neighbours, which would be exceeding difficult and tedious for the bulk of mankind to find out and determine by natural reaſon; therefore it has pleaſed God, in this ſacred book of divine revelation, to expreſs the moſt neceſſary duties of this kind in a very plain and eaſy manner, and make them intelligible to ſouls of the

the loweſt capacity; or they may be very eaſily derived thence by the uſe of reaſon.

9. As there are ſome duties much more neceſſary, and more important than others are, ſo every duty requires our application to underſtand and practiſe it in proportion to its neceſſity and importance.

10. Where two duties ſeem to ſtand in oppoſition to each other, and we cannot practice both, the leſs muſt give way to the greater, and the omiſſion of the leſs is not ſinful. So ceremonial laws give way to moral: God will have mercy and not ſacrifice.

11. In duties of natural religion, we may judge of the different degrees of their neceſſity and importance by reaſon, according to their greater or more apparent tendency to the honour of God, and the good of men: But in matters of revealed religion, it is only divine revelation can certainly inform us what is moſt neceſſary and moſt important; yet we may be aſſiſted alſo in that ſearch by the exerciſes of reaſon.

12. In actions wherein there may be ſome ſcruple about the duty or lawfulneſs of them, we ſhould chooſe always the ſafeſt ſide, and abſtain as far as we can from the practice of things whoſe lawfulneſs we ſuſpect.

13. Points of the greateſt importance in human life, or in religion, are generally the moſt evident, both in the nature of things, and in the word of God; and, where points of faith or practice are exceeding difficult to find out, they cannot be exceeding important. This propoſition may be proved by the goodneſs and faithfulneſs of God, as well as by experience and obſervation.

14. In ſome of the outward practices and forms of religion, as well as human affairs, there is frequently a preſent neceſſity of ſpeedy action one way or another: In ſuch a caſe, having ſurveyed arguments on both ſides, as far as our time and circumſtances admit, we muſt guide our practice by thoſe reaſons

reaſons which appear moſt probable, and ſeem at that time to overbalance the reſt; yet always reſerving room to admit farther light and evidence, when ſuch occurrences return again. It is a preponderation of circumſtantial arguments that muſt determine our actions in a thouſand occurrences.

15. We may alſo determine upon probable arguments where the matter is of ſmall conſequence, and would not anſwer the trouble of ſeeking after certainty. Life and time are more precious than to have a large ſhare of them laid out in ſcrupulous inquiries, whether ſmoaking tobbacco, or wearing a perriwig be lawful or no.

16. In affairs of greater importance, and which may have a long, laſting, and extenſive influence on our future conduct or happineſs, we ſhould not take up with probabilities, if certainty may be attained. Where there is any doubt on the mind in ſuch caſes, we ſhould call in the aſſiſtance of all manner of circumſtances, reaſons, motives, conſequences on all ſides: We muſt wait longer, and with earneſt requeſt ſeek human and divine advice before we fully determine our judgment and our practice; according to the old Roman ſentence, *Quod ſtatuendum eſt ſemel, deliberandum eſt diu;* "We ſhould be long in conſider-" ing what we muſt determine once for all."

SECT. IV.

Principles and Rules of Judgment in Matters of HUMAN PRUDENCE.

THE great deſign of prudence, as diſtinct from morality and religion, is to determine and manage every affair with decency, and to the beſt advantage.

That is decent which is agreeable to our ſtate, condition, or circumſtances, whether it be in behaviour, diſcourſe, or action.

That is advantageous which attains the moſt and beſt

beſt purpoſes, and avoids the moſt and greateſt inconveniencies.

As there is infinite variety in the circumſtances of perſons, things, actions, times and places, ſo we muſt be furniſhed with ſuch general rules as are accommodable to all this variety by a wiſe judgment and diſcretion: For what is an act of conſummate prudence in ſome times, places, and circumſtances, would be conſummate folly in others. Now theſe rules may be ranged in the following manner.

1. Our regard to perſons or things ſhould be governed by the degrees of concernment we have with them, the relation we have to them, or the expectation we have from them. Theſe ſhould be the meaſures by which we ſhould proportion our diligence and application in any thing that relates to them.

2. We ſhould always conſider whether the thing we purſue be attainable; whether it be worthy our purſuit; whether it be worthy of the degree of purſuit; whether it be worthy of the means uſed in order to attain it. This rule is neceſſary both in matters of knowledge, and matters of practice.

3. When the advantages and diſadvantages, conveniencies and inconveniencies of any action are balanced together, we muſt finally determine on that ſide which has the ſuperior weight; and the ſooner in things which are neceſſarily and ſpeedily to be done or determined.

4. If advantages and diſadvantages in their own nature are equal, then thoſe which are moſt certain or likely as to the event ſhould turn the ſcale of our judgment and determine our practice.

5. Where the improbabilities of ſucceſs or advantage are greater than the probabilities, it is not prudence to act or venture, if the action may be attended with danger or loſs equal to the propoſed gain. It is proper to inquire whether this be not the caſe in almoſt all lotteries; for they that hold ſtakes will certainly ſecure part to themſelves; and only the remainder being divided into prizes muſt render the improbability

improbability of gain to each adventurer greater than the probability.

6. We ſhould not deſpiſe or neglect any real advantage, and abandon the purſuit of it, though we cannot attain all the advantages that we deſire. This would be to act like children, who are fond of ſomething which ſtrikes their fancy moſt, and ſullen and regardleſs of every thing elſe, if they are not humoured in that fancy.

7. Though a general knowledge of things be uſeful in ſcience and in human life, yet we ſhould content ourſelves with a more ſuperficial knowledge of thoſe things which have the leaſt relation to our chief end and deſign.

8. This rule holds good alſo in matters of buſineſs and practice, as well as in matters of knowledge; and therefore we ſhould not graſp at every thing, leſt in the end we attain nothing. Perſons that either by an inconſtancy of temper, or by a vain ambition, will purſue every ſort of art and ſcience, ſtudy, and buſineſs, ſeldom grow excellent in any one of them: And projectors who form twenty ſchemes ſeldom uſe ſufficient application to finiſh one of them, or make it turn to good account.

9. Take heed of delaying and trifling amongſt the means inſtead of reaching at the end. Take heed of waſting a life in mere ſpeculative ſtudies, which is called to action and employment: Dwell not too long in philoſophical, mathematical, or grammatical parts of learning, when your chief deſign is law, phyſic, or divinity. Do not ſpend the day in gathering flowers by the way-ſide, leſt night come upon you before you arrive at your journey's end, and then you will not reach it.

10. Where the caſe and circumſtances of wiſe and good men reſemble our own caſe and circumſtances, we may borrow a great deal of inſtruction toward our prudent conduct from their example; as well as in all caſes

caſes we may learn much from their converſation and advice.

11. After all other rules remember this, that mere ſpeculation in matters of human prudence can never be a perfect director, without experience and obſervation. We may be content therefore in our younger years to commit ſome unavoidable miſtakes in point of prudence, and we ſhall ſee miſtakes enow in the conduct of others, both which ought to be treaſured up amongſt our uſeful obſervations, in order to teach us better judgment in time to come. Sometimes the miſtakes, imprudencies, and follies, which ourſelves or others have been guilty of, give us brighter and more effectual leſſons of prudence, than the wiſeſt counſels and the faireſt examples could ever have done.

SECT. V.

Principles and Rules of Judgment in Matters of Human Testimony.

THE evidence of human teſtimony is not ſo proper to lead us into the knowledge of the eſſence and inward nature of things, as to acquaint us with the exiſtence of things, and to inform us of matters of fact both paſt and preſent. And though there be a great deal of fallibility in the teſtimony of men, yet there are ſome things we may be almoſt as certain of as that the ſun ſhines, or that five twenties make an hundred. Who is there at London that knows any thing of the world, but believes there is ſuch a city as Paris in France; that the Pope dwells at Rome; that Julius Cæſar was an emperor, or that Luther had a great hand in the reformation?

If we obſerve the following rules, we may arrive at ſuch a certainty in many things of human teſtimony, as that it is morally impoſſible we ſhould be deceived, that is, we may obtain a moral certainty.

1. Let

1. Let us conſider whether the thing reported be in itſelf poſſible; if not, it can never be credible, whoſoever relates it.

2. Conſider farther whether it be probable, whether there are any concurring circumſtances to prove it, beſide the mere teſtimony of the perſon that relates it. I confeſs, if theſe laſt conditions are wanting, the thing may be true, but then it ought to have the ſtronger teſtimony to ſupport it.

3. Conſider whether the perſon that relates it be capable of knowing the truth: Whether he be a-ſkilful judge in ſuch matters, if it be a buſineſs of art, or a nice appearance in nature, or ſome curious experiment in philoſophy. But if it be a mere occurrence in life, a plain, ſenſible matter of fact, it is enough to inquire whether he who relates it were an eye or ear-witneſs, or whether he himſelf had it only by hearſay, or can trace it up to the original.

4. Conſider whether the narrator be honeſt and faithful, as well as ſkilful: Whether he hath no bias upon his mind, no peculiar gain or profit by believing or reporting it, no intereſt or principle which might warp his own belief aſide from truth; or which might tempt him to prevaricate, to ſpeak falſly, or to give a repreſentation a little different from the naked truth of things. In ſhort, whether there be no occaſion of ſuſpicion concerning his report.

5. Conſider whether ſeveral perſons agree together in the report of this matter; and if ſo, then whether thoſe perſons who joined together in their teſtimony might not be ſuppoſed to combine together in a falſhood. Whether they are perſons of ſufficient ſkill, probity and credit. It might be alſo inquired, whether they are of different nations, ſects, parties, opinions, or intereſts. For the more divided they are in all theſe, the more likely is their report to be true, if they agree together in their

men, and *publicans*, men of *Judea* and *Galilee*, and perhaps ſome *heathens*, who were early converted: The thing might eaſily have been diſproved if it were falſe; it hath been conveyed by conſtant tradition and *writing* down to our times; thoſe who at firſt doubted, were afterwards convinced by certain proofs; nor have any pretended to give any proof of the contrary, but merely denied the fact with impudence, in oppoſition to all theſe evidences.

Obſerv. II. How weak is the faith which is due to a multitude of things in ancient human hiſtory! For, though many of theſe *criteria*, or marks of credibility, are found plainly in the more *general and public facts*, yet as to a multitude of *particular facts and circumſtances*, how deficient are they in ſuch evidence as ſhould demand our aſſent! Perhaps there is nothing that ever was done in all paſt ages, and which was not a public fact, ſo well atteſted as *the reſurrection of Chriſt*.

SECT. VI.

Principles and Rules of Judgment in Matters of Divine Testimony.

AS human teſtimony acquaints us with matters of fact, both paſt and preſent, which lie beyond the reach of our perſonal notice; ſo divine teſtimony is ſuited to inform us both of the nature of things, as well as matters of fact, and of things future, as well as preſent or paſt.

Whatſoever is dictated to us by God himſelf, or by men who are divinely inſpired, muſt be believed with full aſſurance. Reaſon demands us to believe whatſoever divine revelation dictates: For God is perfectly wiſe, and cannot be deceived; he is faithful and good, and will not deceive his creatures: And when reaſon has found out the certain marks or credentials of divine teſtimony to belong to any propoſition,

propoſition, there remains then no farther inquiry to be made, but only to find out the true ſenſe and meaning of that which God has revealed, for reaſon itſelf demands the belief of it.

Now divine teſtimony or revelation requires theſe following credentials.

1. That the propoſitions or doctrines revealed be not inconſiſtent with reaſon; for intelligent creatures can never be bound to believe real inconſiſtencies. Therefore we are ſure the popiſh doctrine of tranſubſtantiation is not a matter of divine revelation, becauſe it is contrary to all our ſenſes and our reaſon, even in their proper exerciſes.

God can dictate nothing but what is worthy of himſelf, and agreeable to his own nature and divine perfections. Now many of theſe perfections are diſcoverable by the light of reaſon, and whatſoever is inconſiſtent with theſe perfections cannot be a divine revelation.

But let it be noted, that in matters of practice towards our fellow-creatures, God may command us to act in a manner contrary to what reaſon would direct antecedent to that command. So Abraham was commanded to offer up his ſon a ſacrifice: The Iſraelites were ordered to borrow of the Egyptians without paying them, and to plunder and ſlay the Inhabitants of Canaan: Becauſe God has a ſovereign right to all things, and can with equity diſpoſſeſs his creatures of life, and every thing which he has given them, and eſpecially ſuch ſinful creatures as mankind and he can appoint whom he pleaſes to be the inſtruments of this juſt diſpoſſeſſion or deprivation. So that theſe divine commands are not really inconſiſtent with right reaſon; for whatſoever is ſo cannot be believed, where that inconſiſtency appears.

2. Upon the ſame account, the whole doctrine of revelation muſt be conſiſtent with itſelf; every part of it muſt be conſiſtent with each other: And though

in points of practice latter revelation may repeal or cancel former laws, yet in matters of belief no latter revelation can be inconsistent with what has been heretofore revealed.

3. Divine revelation must be confirmed by some divine and supernatural appearances, some extraordinary signs or tokens, visions, voices, or miracles wrought, or prophecies fulfilled. There must be some demonstrations of the presence and power of God, superior to all the powers of nature, or the settled connexion with God as Creator has established among his creatures in this visible world.

4. If there are any such extraordinary and wonderful appearances and operations brought to contest with or to oppose divine revelation, there must and always will be such a superiority on the side of that revelation which is truly divine, as to manifest that God is there. This was the case when the Egyptian sorcerer contended with Moses. But the wonders which Moses wrought did so far transcend the powers of the magicians, as made them confess it was the finger of God,

5. These divine appearances or attestations to revelation must be either known to ourselves, by our own personal observation of them, or they must be sufficiently attested by others, according to the principles and rules by which matters of human faith are to be judged in the foregoing section.

Some of those, who lived in the nations and ages where miracles were wrought, were eye and ear witnesses of the truth and divinity of the revelation; but we who live in these distant ages, must have them derived down to us by just and incontestible history and tradition. We also, even in these times, may see the accomplishment of some ancient predictions, and thereby obtain that advantage toward the confirmation of our faith in divine revelation, beyond what those persons enjoyed who lived when the predictions were pronounced.

6. There

6. There is another very conſiderable confirmation of divine teſtimony; and that is when the doctrines themſelves, either on the publication or the belief of them, produce ſupernatural effects. Such were the miraculous powers which were communicated to believers in the firſt ages of Chriſtianity, the converſion of the Jews or Gentiles, the amazing ſucceſs of the goſpel of Chriſt, without human aid, and in oppoſition to a thouſand impediments; its power in changing the hearts and lives of ignorant and vicious heathens, and wicked and profane creatures in all nations, and filling them with a ſpirit of virtue, piety and goodneſs. Whereſoever perſons have found this effect in there own hearts, wrought by a belief of the Goſpel of Chriſt, they have a witneſs in themſelves of the truth of it, and abundant reaſon to believe it divine.

Of the difference between reaſon and revelation, and in what ſenſe the latter is ſuperior, ſee more in Chap. II. ſect. 9. and Chap. IV. direct. 6.

SECT. VII.

Principles and Rules of Judging concerning Things paſt, preſent, and to come, by the mere Uſe of Reaſon.

THOUGH we attain the greateſt aſſurance of things paſt and future by divine faith, and learn many matters of fact, both paſt and preſent by human faith, yet reaſon alſo may in a good degree aſſiſt us to judge of matters of fact both paſt, preſent, and to come, by the following principles.

1. There is a ſyſtem of beings round about us, of which we ourſelves are a part, which we call the world, and in this world there is a courſe of nature, or a ſettled order of cauſes, effects, antecedents, concomitants, conſequences, &c. from which the author of nature doth not vary but upon very important occaſions.

2. Where antecedents, concomitants, and conſequents, cauſes and effects, ſigns and things ſignified, ſubjects and adjuncts, are neceſſarily connected with each other, we may infer the cauſes from the effects, and effects from cauſes, the antecedents from the conſequents, as well as conſequents from antecedents, &c. and thereby be pretty certain of many things both paſt, preſent and to come. It is by this principle that aſtronomers can tell what day and hour the ſun and moon were eclipſed five hundred years ago, and predict all future eclipſes as long as the world ſhall ſtand. They can tell preciſely at what minute the ſun riſes or ſets this day at Pekin in China, or what altitude the dog-ſtar had at midnight or mid-noon in Rome, on the day when Julius Cæſar was was ſlain. Gardeners upon the ſame principle can foretel the months when every plant will be in bloom, and the ploughman knows the weeks of harveſt: We are ſure, if there be a chicken, there was an egg: If there be a rainbow, we are certain it rains not far off: If we behold a tree growing on the earth, we know it has naturally a root under ground.

Where there is a neceſſary connexion between cauſes and effects, antecedents and conſequents, ſigns and things ſignified, we know alſo that like cauſes will have like effects, and proportionable cauſes will have proportionable effects, contrary cauſes, will have contrary effects; and obſerving men may form many judgments by the rules of ſimilitude and proportion, where the cauſes, effects, &c. are not entirely the ſame.

4. Where there is but a probable and uncertain connexion between antecedents, concomitants and conſequents, we can give but a conjecture, or a probable determination. If the clouds gather, or the weather-glaſs ſinks, we ſuppoſe it will be rain. If a man ſpit blood frequently with coughing, we ſuppoſe his lungs are hurt: If very dangerous ſymptoms appear, we expect his death.

5. Where cauſes operate freely, with a liberty of indifference

indifference to this or the contrary, there we cannot certainly know what the effects will be: For it ſeems to be contingent; and the certain knowledge of it belongs only to God. This is the caſe in the greateſt part of human actions.

6. Yet wiſe men by a juſt obſervation of human nature, will give very probable conjectures in this matter alſo concerning things paſt, or things future, becauſe human nature in all ages and nations has ſuch a conformity to itſelf. By a knowledge of the tempers of men, and their preſent circumſtances, we may be able to give a happy gueſs what their conduct will be, and what will be the event, by an obſervation of the like caſes in former times. This made the Emperor Marcus Antonius to ſay, "By "looking back into hiſtory, and conſidering the "fate and revolutions of governments, you will be "able to form a gueſs and almoſt propheſy upon "the future. For things paſt, preſent, and to come, "are ſtrangely uniform, and of a colour; and are "commonly caſt in the ſame mould. So that upon "the matter, forty years of human life may ſerve "for a ſample of ten thouſands." Collier's Antoninus, Book VII. ſect. 50.

7. There are alſo ſome other principles of judging concerning the paſt actions of men in former ages, beſides books, hiſtories and traditions, which are the mediums of conveying human teſtimony; as we may infer the ſkill and magnificence of the ancients by ſome fragments of their ſtatues, and ruins of their buildings. We know what Roman legions came into Great Britain by numbers of bricks dug out of the earth in ſome parts of the iſland, with the marks of ſome particular legion upon them, which muſt have been employed there in brick-making. We rectify ſome miſtakes in hiſtory by ſtatues, coins, old altars, utenſils of war, &c. We confirm or diſprove ſome pretended traditions and hiſtorical writings, by medals, images, pictures, urns, &c.

Thus I have gone through all thoſe particular objects of our judgment which I firſt propoſed, and have laid down principles and rules by which we may ſafely conduct ourſelves therein. There is a variety of other objects, concerning which we are occaſionally called to paſs a judgment, namely, The characters of perſons, the value and worth of things, the ſenſe and meaning of particular writers, matters of wit, oratory, poeſy, matters of equity in judicial courts, matters of traffic and commerce between man and man, which would be endleſs to enumerate. But if the general and ſpecial rules of judgment which have been mentioned in theſe two laſt chapters are treaſured up in the mind, and wrought into the very temper of our ſouls in our younger years, they will lay a foundation for juſt and regular judgment concerning a thouſand ſpecial occurences in the religious, civil and learned life.

THE

THE

THIRD PART

OF

LOGIC.

Of Reasoning and Syllogism.

AS the first work of the mind is perception, whereby our ideas are framed, and the second is judgment, which joins or disjoins our ideas and forms a proposition, so the third operation of the mind is reasoning, which joins several propositions together, and makes a syllogism, that is, *an argument whereby we are wont to infer something that is less known, from truths which are more evident.*

In treating of this subject, let us consider more particularly,

1. *The nature of a* syllogism, *and the parts of which it is composed.*

2. *The several kinds of* syllogisms, *with particular rules relating to them.*

3. *The doctrine of* sophisms, *or* false reasoning, *together with the means of avoiding them, and the manner of solving or answering them.*

4. *Some general rules to direct our* reasoning.

CHAP. I.

Of the Nature of a Syllogiſm, *and the Parts of which it is compoſed.*

IF the mere perception and compariſon of two ideas would always ſhew us whether they agree or diſagree; then all rational propoſitions would be matters of intelligence, or firſt principles, and there would be no uſe of reaſoning, or drawing any conſequences. It is the narrowneſs of the human mind which introduces the neceſſity of reaſoning. When we are unable to judge of the truth or falſhood of a propoſition in an immediate manner, by the mere contemplation of its ſubject and predicate, we are then conſtrained to uſe a medium, and to compare each of them with ſome third idea, that by ſeeing how far they agree or diſagree with it, we may be able to judge how far they agree ar diſagree among themſelves: As, if there are two lines, A and B, and I know not whether they are equal or no, I take a third line C, or an inch, and apply it to each of them; If it agree with them both, then I infer that A and B are equal; but if it agree with one, and not with the other, then I conclude A and B are unequal: If it agree with neither of them, there can be no compariſon.

So if the queſtion be *whether God muſt be worſhipped*, we ſeek a third idea, ſuppoſe the idea of a Creator, and ſay,

Our Creator muſt be worſhipped;
God is our Creator;
Therefore *God muſt be worſhipped.*

The compariſon of this third idea with the two diſtinct parts of the queſtion, uſually requires two propoſitions, which are called the premiſes: The third propoſition which is drawn from them is the concluſion

concluſion, wherein the queſtion itſelf is anſwered, and the ſubject and predicate joined either in the negative or the affirmative.

The foundation of all affirmative concluſions is laid in this general truth, that as far as two propoſed ideas agree to any third idea, they agree alſo among themſelves. The character of Creator agrees to God, and worſhip agrees to a Creator, therefore worſhip agrees to God.

The foundation of all negative concluſions is this, that where one of the two propoſed ideas agrees with the third idea, and the other diſagrees with it, they muſt needs diſagree ſo far alſo with one another; as, if *no ſinners are happy*, and if *angels are happy*, then *angels are not ſinners*.

Thus it appears what is the ſtrict and juſt notion of a ſyllogiſm: It is a ſentence or argument made up of three propoſitions, ſo diſpoſed, as that the laſt is neceſſarily inferred from thoſe which go before, as in the inſtances which have been juſt mentioned.

In the conſtitution of a ſyllogiſm two things may be conſidered, viz. the matter and the form of it.

The matter of which a ſyllogiſm is made up, is three propoſitions; and theſe three propoſitions are made up of three ideas or terms variouſly joined.

The three terms are called the remote matter of a ſyllogiſm; and the three propoſitions the proxime or immediate matter of it.

The three terms are named the major, the minor, and the middle.

The predicate of the concluſion is called the *major term*, becauſe it is generally of a larger extenſion than the minor term, or the ſubject. The major and minor terms are called the extremes.

The middle term is the *third* idea invented, and diſpoſed in two propoſitions, in ſuch a manner as to ſhew the connexion between the major and minor

term

term in the concluſion; for which reaſon the middle term itſelf is ſometimes called the argument.

That propoſition which contains the predicate of the concluſion connected with the middle term, is uſually called the *major propoſition*, whereas the *minor propoſition* connects the middle term with the ſubject of the concluſion, and is ſometimes called the *aſſumption*.

Note, This exact diſtinction of the ſeveral parts of a ſyllogiſm, and of the major and minor terms connected with the middle term in the major and minor propoſitions, does chiefly belong to ſimple or categorical ſyllogiſms, of which we ſhall ſpeak in the next chapter, though all ſyllogiſms whatſoever have ſomething analogical to it.

Note farther, That the major propoſition is generally placed firſt, and the minor ſecond, and the concluſion in the laſt place, where the ſyllogiſm is regularly compoſed and repreſented.

The form of a ſyllogiſm, is the framing and diſpoſing of the premiſes according to art or juſt principles of reaſoning, and the regular inference of the concluſion from them.

The act of reaſoning, or inferring one thing from another, is generally expreſſed and known by the particle *therefore*, when the argument is formed according to the rules of art; though, in common diſcourſe or writing, ſuch *cauſal* particles as *for*, *becauſe*, manifeſt the act of reaſoning as well as the illative particles *then* and *therefore*: And whereſoever any of theſe words are uſed, there is a perfect ſyllogiſm expreſſed or implied, though perhaps the three propoſitions do not appear, or are not placed in regular form.

CHAP.

CHAP. II.

Of the Various Kinds of Syllogiſms, with Particular rules Relating to Them.

SYLLOGISMS are divided into various kinds, either according to the queſtion which is proved by them, according to the nature and compoſition of them, or according to the middle term, which is uſed to prove the queſtion.

SECT. I.

Of Univerſal and Particular Syllogiſms, both Negative and Affirmative.

ACCORDING to the queſtion which is to be proved, ſo ſyllogiſms are divided into univerſal affirmative, univerſal negative, particular affirmative, and particular negative. This is often called a diviſion of ſyllogiſms drawn from the concluſion; for ſo many ſorts of concluſions there may be, which are marked with the letters, A, E, I, O.

In an univerſal affirmative ſyllogiſm, one idea is proved univerſally to agree with another, and may be univerſally affirmed of it, as, *Every ſin deſerves death, every unlawful wiſh is a ſin;* therefore *every unlawful wiſh deſerves death.*

In an univerſal negative ſyllogiſm, one idea is proved to diſagree with another idea univerſally, and may be thus denied of it; as, *No injuſtice can be pleaſing to God; all perſecution for the ſake of conſcience is injuſtice;* therefore *no perſecution for conſcience ſake can be pleaſing to God.*

Particular affirmative, and particular negative ſyllogiſms, may be eaſily underſtood by what is ſaid of univerſals,

univerſals, and there will be ſufficient examples given of all theſe in the next ſection.

The general principle upon which theſe univerſal and particular ſyllogiſms are founded, is this, Whatſoever is affirmed or denied univerſally of any idea, may be affirmed or denied of all the particular kinds or beings which are contained in the extenſion of that univerſal idea. So the deſert of death is affirmed univerſally of ſin, and an unlawful wiſh is one particular kind of ſin, therefore the deſert of death may be affirmed concerning an unlawful wiſh. And ſo of the reſt.

Note, In the doctrine of ſyllogiſms, a ſingular and an indefinite propoſition are ranked among univerſals, as was before obſerved in the doctrine of propoſitions.

SECT. II.

Of Plain, Simple Syllogiſms, and their Rules.

THE next diviſion of ſyllogiſms is into ſingle and compound. This is drawn from the nature and compoſition of them.

Single ſyllogiſms, are made up of three propoſitions: Compound ſyllogiſms contain more than three propoſitions, and may be formed into two or more ſyllogiſms.

Single ſyllogiſms, for diſtinction's ſake, may be divided into * ſimple, complex, and conjunctive.

Thoſe are properly called ſimple or categorical ſyllogiſms, which are made up of three plain, ſingle, or categorical propoſitions, wherein the middle term is evidently and regularly joined with one part of the queſtion,

* As ideas and propoſitions are divided into ſingle and compound, and ſingle are ſubdivided into ſimple and complex; ſo there are the ſame diviſions and ſubdiviſions applied to ſyllogiſms.

queſtion in the major propoſition, and with the other in the minor, whence there follows a plain ſingle concluſion; as *Every human virtue is to be ſought with diligence; prudence is a human virtue;* therefore *prudence is to be ſought diligently.*

Note, Though the terms of propoſitions may be complex; yet where the compoſition of the whole argument is thus plain, ſimple, and regular, it is properly called a ſimple ſyllogiſm, ſince the complexion does not belong to the ſyllogiſtic form of it.

Simple ſyllogiſms have ſeveral rules belonging to them, which being obſerved, will generally ſecure us from falſe inferences: But theſe rules being founded on four general axioms, it is neceſſary to mention theſe *axioms* beforehand, for the uſe of thoſe who will enter into the ſpeculative reaſon of all theſe rules.

Axiom 1. Particular propoſitions are contained in univerſals, and may be inferred from them; but univerſals are not contained in particulars, nor can be inferred from them.

Axiom 2. In all univerſal propoſitions, the ſubject is univerſal: In all particular propoſitions, the ſubject is particular.

Axiom 3. In all affirmative propoſitions, the predicate has no greater extenſion than the ſubject; for its extenſion is reſtrained by the ſubject, and therefore it is always to be eſteemed as a particular idea. It is by mere accident, if it ever be taken univerſally, and cannot happen but in ſuch univerſal or ſingular propoſitions as are reciprocal.

Axiom 4. The predicate of a negative propoſition is always taken univerſally, for in its whole extenſion it is denied of the ſubject: If we ſay, No ſtone is vegetable, we deny all ſorts of vegetation concerning ſtones.

The Rules of ſimple, regular Syllogiſms are theſe.

Rule I. *The middle term muſt not be taken twice particularly, but once at leaſt univerſally.* For if the middle term be taken for two different parts or kinds of the ſame univerſal idea, then the ſubject of the concluſion is compared with one of theſe parts, and the predicate with another part, and this will never ſhew whether that ſubject and predicate agree or diſagree: There will then be four diſtinct terms in the ſyllogiſm, and the two parts of the queſtion will not be compared with the ſame third idea; as if I ſay, Some men are pious, and ſome men are robbers, I can never infer that ſome robbers are pious, for the middle term men being taken twice particulary, it is not the ſame men who are ſpoken of in the major and minor propoſitions.

Rule II. *The terms in the concluſion muſt never be taken more univerſally than they are in the premiſes.* The reaſon is derived from the firſt axiom, that generals can never be inferred from particulars.

Rule III. *A negative concluſion cannot be proved by two affirmative premiſes.* For, when two terms of the concluſion are united or agree to the middle term, it does not follow by any means that they diſagree with one another.

Rule IV. *If one of the premiſes be negative, the concluſion muſt be negative.* For, if the middle term be denied of either part of the concluſion, it may ſhew that the terms of the concluſion diſagree, but it can never ſhew that they agree.

Rule V. *If either of the premiſes be negative, the concluſion muſt be particular.* This may be proved for the moſt part from the firſt axiom.

Theſe two laſt *rules* are ſometimes united in this ſingle ſentence, *The concluſion always follows the weaker part of the premiſes.* Now negatives and particulars are counted inferior to affirmatives and univerſals.

Rule

Rule VI. *From two negative premiſes nothing can be concluded.* For they ſeparate the middle term both from the ſubject and predicate of the concluſion; and, when two ideas diſagree to a third, we cannot infer that they either agree or diſagree with each other.

Yet where the negation is a part of the middle term, the two premiſes may look like negatives according to the words, but one of them is *affirmative* in ſenſe; as, *What has no thought cannot reaſon;* but *a worm has no thought;* therefore *a worm cannot reaſon.* The minor propoſition does really affirm the middle term concerning the ſubject, namely, *a worm is what has no thought*, and thus it is properly in this ſyllogiſm an affirmative propoſition.

Rule VII. *From two particular premiſes nothing can be concluded.* This rule depends chiefly on the firſt axiom.

A more laborious and accurate proof of theſe rules, and the derivation of every part of them in all poſſible caſes, from the foregoing axioms, require ſo much time, and are of ſo little importance to aſſiſt the right uſe of reaſon, that it is needleſs to inſiſt longer upon them here. See all this done ingeniouſly in the Logic called the *Art of Thinking*, Part III. Chap. III. *&c.*

SECT. II.

Of the Moods and Figures of ſimple Syllogiſms.

SIMPLE ſyllogiſms are adorned and ſurrounded in the common books of logic with a variety of inventions about moods and figures, wherein, by the artificial contexture of the letters A, E, I, and O, men have endeavoured to transform logic, or the art of reaſoning, into a ſort of mechaniſm, and to teach boys to ſyllogize, or frame arguments and refute them, without any real inward knowledge of the queſtion.

queſtion. This is almoſt in the ſame manner as ſchool-boys have been taught perhaps in their trifling years to compoſe Latin verſes, that is, by certain tables and ſquares, with a variety of letters in them, wherein by counting every ſixth, ſeventh, or eight letter, certain Latin words ſhould be framed in the form of hexameters or pentameters; and this may be done by thoſe who know nothing of Latin or of verſes.

I confeſs ſome of theſe logical ſubtilties have much more uſe than thoſe verſifying tables, and there is much ingenuity diſcovered in determining the preciſe number of ſyllogiſms that may be formed in every figure, and giving the reaſons of them; yet the light of nature, a good judgment, and due conſideration of things, tend more to true reaſoning, than all the trappings of moods and figures.

But leſt this book be charged with too great defects and imperfections, it may be proper to give ſhort hints of that which ſome *logicians* have ſpent ſo much time and paper upon.

All the poſſible compoſitions of three of the letters, A, E, I, O, to make three propoſitions, amount to ſixty-four; but fifty-four of them are excluded from forming true ſyllogiſms by the ſeven rules in the foregoing ſection: The remaining *ten* are variouſly diverſified by figures and moods into fourteen ſyllogiſms.

The figure of a ſyllogiſm is the proper diſpoſition of the middle term with the parts of the queſtion.

A mood is the regular determination of propoſitions according to their quantity and quality, that is, their univerſal or particular affirmation or negation; which are ſignified by certain artificial words wherein the conſonants are neglected, and theſe four vowels, A, E, I, O, are only regarded.

There are generally counted three figures.

In the firſt of them the middle term is the ſubject of the major propoſition, and the predicate of the minor

minor. This contains four moods, called *Barbara*, *Celarent*, *Darii*, *Ferio*. And it is the excellency of this figure, that all ſorts of queſtions or concluſions may be proved by it, whether A, E, I, or O, that is, univerſal or particular, affirmative or negative; as,

Bar- Every wicked man is truly miſerable:
ba- All tyrants are wicked men;
ra. Therefore all tyrants are truly miſerable.

Ce- He that is always in fear is not happy;
la- Covetous men are always in fear;
rent. Therefore covetous men are not happy.

Da- Whatſoever furthers our ſalvation is good for us:
ri- Some afflictions further our ſalvation;
i. Therefore ſome afflictions are good for us.

Fe- Nothing that muſt be repented of is truly deſirable;
ri- Some pleaſures muſt be repented of;
o. Therefore there are ſome pleaſures which are not truly deſirable.

In the ſecond figure the middle term is the predicate of *both* the premiſes; this contains four moods, namely, *Ceſare*, *Cameſtres*, *Feſtino*, *Baroco*, and it admits only of negative concluſions; as,

Ce- No liar is fit to be believed;
ſa- Every good Chriſtian is fit to be believed;
re. Therefore no good Chriſtian is a liar.

The reader may eaſily form examples of the reſt.

The 3d figure requires that the middle term be the ſubject of both the premiſes. It has ſix moods, namely, Darapti, Felapton, Diſamis, Datiſi, Bocardo, Feriſon: And it admits only of particular concluſions as,

Da-

Da- Whoſoever loves God ſhall be ſaved;
rap- All the lovers of God have their imperfections;
ti. Therefore ſome who have imperections ſhall be ſaved.

I leave the reader to form examples of the reſt.

The moods of theſe three figures are compriſed in four Latin verſes.

Barbara, Celarent, Darii, Ferio, quoque primæ.
Ceſare, Cameſtres, Feſtino, Baroco, ſecundæ.
Tertia *Darapti* ſibi vindicat, atque *Felapton.*
Adjungens *Diſamis, Datiſi, Bocardo, Feriſon.*

The ſpecial rules of the three figures are theſe.

In the firſt figure the major propoſition muſt always be univeſal, and the minor affirmative.

In the ſecond figure alſo the major muſt be univerſal; and one of the premiſes, together with the concluſion, muſt be negative.

In the third figure the minor muſt be affirmative, and the concluſion always particular.

There is alſo a fourth figure, wherein the middle term is predicated in the major propoſition, and ſubjected in the minor: But this is a very indirect and oblique manner of concluding, and is never uſed in the ſciences, nor in human life, and therefore I call it uſeleſs.—Some logicians will allow it to be nothing elſe but a mere inverſion of the firſt figure; the moods of it, namely, *Baralipton,* or *Barbari, Calentes, Dibatis, Feſpamo, Freſiſon,* are not worthy to be explained by one example.

SECT. IV.

Of complex Syllogiſms.

IT is not the mere uſe of complex terms in a ſyllogiſm that gives it this name, though one of the terms

terms is uſually complex; but thoſe are properly called *complex ſyllogiſms*, in which the middle term is not connected with the whole ſubject, or the whole predicate in two diſtinct propoſitions, but is intermingled and compared with them by parts, or in a more confuſed manner, in different forms of ſpeech, as,

The ſun is a ſenſeleſs being;
The Perſians worſhipped the ſun;
Therefore *the Perſians worſhipped a ſenſeleſs being.*

Here the predicate of the concluſion is *worſhipped a ſenſeleſs being*, part of which is joined with the middle term *ſun* in the major propoſition, and the other part in the minor.

Though this ſort of argument is confeſſed to be entangled or confuſed, and irregular, if examined by the rules of ſimple ſyllogiſms; yet there is a great variety of arguments uſed in books of learning, and in common *life*, whoſe conſequence is ſtrong and evident, and which muſt be ranked under this head; as,

I. Excluſive propoſitions will form a complex argument; as, *Pious men are the only favourites of heaven: True Chriſtians are favourites of heaven;* Therefore *true Chriſtians are pious men.* Or thus, *Hypocrites are not pious men;* Therefore *hypocrites are no favourites of heaven.*

II. Exceptive propoſitions will make ſuch complex ſyllogiſms; as, *None but phyſicians came to the conſultation; The nurſe is no phyſician;* Therefore *the nurſe came not to the conſultation.*

III. Or, comparative propoſitions; as, *Knowledge is better than riches: Virtue is better than knowledge;* Therefore *virtue is better than riches.* Or thus, *A dove will fly a mile in a minute; A ſwallow flies ſwifter than a dove;* Therefore *a ſwallow will fly more than a mile in a minute.*

IV. Or inceptive and deſitive propoſitions; as, *The fogs*

fogs vaniſh as the ſun riſes ; But *the fogs have not yet begun to vaniſh ;* Therefore *the ſun is not yet riſen.*

V. Or modal propoſitions ; as, *It is neceſſary that a general underſtand the art of war ;* But *Caius does not underſtand the art of war ;* Therefore *it is neceſſary Caius ſhould not be a general.* Or thus, *A total eclipſe of the ſun would cauſe darkneſs at noon ; It is poſſible that the moon at that time may totally eclipſe the ſun :* Therefore *it is poſſible that the moon may cauſe darkneſs at noon.*

Beſide all theſe, there is a great number of *complex ſyllogiſms* which can hardly be reduced under any particular titles, becauſe the forms of human language are ſo exceeding various ; as,

Chriſtianity requires us to believe what the apoſtles wrote ; St. Paul is an apoſtle ; Therefore *Chriſtianity requires us to believe what St. Paul wrote.*

No human artiſt can make an animal ; A fly or a worm is an animal ; Therefore *no human artiſt can make a fly or a worm.*

The father always lived in London ; The ſon always lived with the father ; Therefore *the ſon always lived in London.*

The bloſſom ſoon follows the full bud ; This pear-tree hath many full buds ; Therefore *it will ſhortly have many bloſſoms.*

One hailſtone never falls alone ; But *a hailſtone fell juſt now ;* Therefore *others fell with it.*

Thunder ſeldom comes without lightening ; But *it thundered yeſterday ;* Therefore *probably it lightened alſo.*

Moſes wrote before the Trojan war ; The firſt Greek hiſtorians wrote after the Trojan war ; Therefore *the firſt Greek hiſtorians wrote after Moſes*.*

Now

* Perhaps ſome of theſe ſyllogiſms may be reduced to thoſe which I call *connexive* afterward; but it is of little moment to what ſpecies they belong; for it is not any formal ſet of rules, ſo much as the evidence and force of reaſon, that muſt determine the truth or falſhood of all ſuch ſyllogiſms.

Now the force of all theſe arguments is ſo evident and concluſive, that though the form of the ſyllogiſm be never ſo irregular, yet we are ſure the inferences are juſt and true; for the premiſes, according to the reaſon of things, do really contain the concluſion that is deduced from them, which is a never-failing teſt of a true ſyllogiſm, as ſhall be ſhewn hereafter.

The truth of moſt of theſe complex ſyllogiſms may alſo be made to appear, if needful, by reducing them either to regular, ſimple ſyllogiſms, or to ſome of the conjunctive ſyllogiſms which are deſcribed in the next ſection. I will give an inſtance only in the firſt, and leave the reſt to exerciſe the ingenuity of the reader.

The firſt argument may be reduced to a ſyllogiſm in Barbara, thus,

The ſun is a ſenſeleſs being;
What the Perſians worſhipped is the ſun;
Therefore *what the Perſians worſhipped is a ſenſeleſs being.* Though the concluſive force of his argument is evidently without this reduction.

SECT. V.

Of Conjunctive Syllogiſms.

THOSE are called *conjunctive ſyllogiſms*, wherein one of the premiſes, namely, the major, has diſtinct parts, which are joined by a conjunction, or ſome ſuch particle of ſpeech. Moſt times the major or minor, or both, are explicitly compound propoſitions; and generally the major propoſition is made up of two diſtinct parts or propoſitions, in ſuch a manner, as that by the aſſertion of one in the minor, the other is either aſſerted or denied in the concluſion: Or, by the denial of one in the minor, the other is either aſſerted or denied in the concluſion. It is hardly poſſible indeed to fit any ſhort definition

to include all the kinds of them; but the chief amongſt them are the conditional ſyllogiſm, the diſjunctive, the relative, and the connexive.

I. The conditional, or hypothetical ſyllogiſm, is that whoſe major or minor, or both, are conditional propoſitions; as, *If there be a God, the world is governed by providence;* but *there is a God;* therefore *the world is governed by providence.*

Theſe ſyllogiſms admit two ſorts of true argumentation, where the major is conditional.

1. When the antecedent is aſſerted in the minor, that the conſequent may be aſſerted in the concluſion; ſuch is the preceding example. This is called *arguing from the poſition of the antecedent to the poſition of the conſequent.*

2. When the conſequent is contradicted in the minor propoſition, that the antecedent may be contradicted in the concluſion; as, *If Atheiſts are in the right, then the world exiſts without a cauſe:* but *the world does not exiſt without a cauſe;* therefore *Atheiſts are not in the right.* This is called arguing *from the removing of the conſequent to the removing of the antecedent.*

To remove the antecedent or conſequent here, does not merely ſignify the denial of it, but the contradiction of it; for the mere denial of it by a contrary propoſition will not make a true ſyllogiſm, as appears thus: *If every creature be reaſonable, every brute is reaſonable;* but *no brute is reaſonable;* therefore *no creature is reaſonable.* Whereas if you ſay in the minor, but *every brute is not reaſonable,* then it would follow truly in the concluſion, therefore *every creature is not reaſonable.*

When the antecedent or conſequent are negative propoſitions, they are removed by an affirmative; as, *If there be no God, then the world does not diſcover creating wiſdom;* but *the world does diſcover creating wiſdom;* therefore *there is a God.* In this inſtance the conſequent is removed or contradicted in the minor,

minor, that the antecedent may be contradicted in the concluſion. So in this argument of St Paul, 1 Cor. xv. *If the dead riſe not, Chriſt died in vain;* but *Chriſt did not die in vain;* therefore *the dead ſhall riſe.*

There are alſo two ſorts of falſe arguing, namely, (1.) *From the removing of the antecedent to the removing of the conſequent;* or, (2.) *From the poſition of the conſequent, to the poſition of the antecedent.* Examples of theſe are eaſily framed; as,

(1.) *If a miniſter were a prince he muſt be honoured;* but *a miniſter is not a prince;* therefore *he muſt not be honoured.*

(2.) *If a miniſter were a prince he muſt be honoured;* but *a miniſter muſt be honoured;* therefore *he is a prince.*

Who ſees not the ridiculous falſhood of both theſe ſyllogiſms?

Obſerv. I. If the ſubject of the antecedent and the conſequent be the ſame, then the hypothetical ſyllogiſm may be turned into a categorical one; as, *If Cæſar be a king, he muſt be honoured;* but *Cæſar is a king;* therefore, *&c.* This may be changed thus, *Every king muſt be honoured;* but *Cæſar is a king;* therefore, *&c.*

Obſerv. II. If the major propoſition only be conditional, the concluſion is categorical: But if the minor or both be conditional, the concluſion is alſo conditional; as, *The worſhippers of images are idolaters; If the Papiſts worſhip a crucifix, they are worſhippers of an image;* therefore, *If the Papiſts worſhip a crucifix, they are idolaters.* But this ſort of ſyllogiſms ſhould be avoided as much as poſſible in diſputation, becauſe they greatly embarraſs a cauſe: The ſyllogiſms, whoſe major only is hypothetical, are very frequent, and uſed with great advantage.

II. A diſjunctive ſyllogiſm, is when the major propoſition is diſjunctive; as, *The earth moves in a circle*

or an ellipſis; but *it does not move in a circle*; therefore *it moves in an ellipſis*.

A *diſjunctive ſyllogiſm* may have many members or parts; thus, *It is either ſpring, ſummer, autumn, or winter*; but *It is not ſpring, autumn* or *winter*; therefore *It is ſummer*.

The true method of arguing here, is *from the aſſertion of one, to the denial of the reſt*, or *from the denial of one or more, to the aſſertion of what remains*; but the major ſhould be ſo framed, that the ſeveral parts of it cannot be true together, though one of them is evidently true.

III. A *relative ſyllogiſm* requires the major propoſition to be relative; as, *Where Chriſt is, there ſhall his ſervants be*; but *Chriſt is in heaven*; therefore *his ſervants ſhall be there alſo*. Or, *As is the captain, ſo are his ſoldiers*; but *the captain is a coward*; therefore *his ſoldiers are ſo too*.

Arguments that relate to the doctrine of proportion muſt be referred to this head; as, *As two are to four, ſo are three to ſix*; but *two make the half of four*; therefore *three make the half of ſix*.

Beſides theſe, there is another ſort of ſyllogiſm which is very natural and common, and yet authors take very little notice of it, call it by an improper name, and deſcribe it very defectively; and that is,

IV. A connexive ſyllogiſm. This ſome have called copulative; but it does by no means require the major to be a copulative nor a compound propoſition (according to the definition given of it, Part. II. chap. II. ſect. 6.) but it requires that two or more ideas be ſo connected either in the complex ſubject or predicate of the major, that if one of them be affirmed or denied in the minor, common ſenſe will naturally ſhew us what will be the conſequence. It would be very tedious and uſeleſs to frame particular rules about them, as will appear by the following

lowing examples, which are very various, and yet may be farther multiplied.

(1.) *Meekneſs and humility always go together; Moſes was a man of meekneſs;* therefore *Moſes was alſo humble.* Or we may form this minor, *Pharaoh was no humble man;* therefore *he was not meek.*

(2.) *No man can ſerve God and mammon; the covetous man ſerves mammon;* therefore *he cannot ſerve God.* Or the minor may run thus, *The true Chriſtian ſerves God;* therefore *he does not ſerve mammon.*

(3.) *Genius muſt join with ſtudy to make a great man; Florino has genius,* but *he cannot ſtudy;* therefore *Florino will never be a great man.* Or thus, *Quintus ſtudies hard,* but *has no genius;* therefore *Quintus will never be a great man.*

(4.) *Gulo cannot make a dinner without fleſh and fiſh; there was no fiſh to be gotten to-day;* therefore *Gulo this day cannot make a dinner.*

(5.) *London and Paris are in different latitudes; the latitude of London is* 51 ½ *degrees;* therefore *this cannot be the latitude of Paris.*

(7.) *The father and the ſon are of equal ſtature; the father is ſix feet high;* therefore *the ſon is ſix feet high alſo.*

(6.) *Joſeph and Benjamin had one mother; Rachael was the mother of Joſeph;* therefore *ſhe was Benjamin's mother too.*

(8.) *Pride is inconſiſtent with innocence; Angels have innocence;* therefore *they have no pride.* Or thus: *Devils have pride;* therefore *they have not innocence.*

I might multiply other inſtances of theſe connexive ſyllogiſms, by bringing in all ſorts of exceptive, excluſive, comparative, and modal propoſitions, into the compoſition of them; for all theſe may be wrought into conjunctive, as well as into ſimple ſyllogiſms, and thereby we may render them complex. But it would waſte time and paper without equal profit.

Concerning theſe various kinds of conjunctive ſyllogiſms, take theſe two obſervations.

Obſerv. I. Moſt of them may be transformed into categorical ſyllogiſms by thoſe who have a mind to prove the truth of them that way; or they may be eaſily converted into each other by changing the forms of ſpeech.

Obſerv. II. Theſe conjunctive ſyllogiſms are ſeldom deficient or faulty in the form of them; for ſuch a deficience would be diſcovered at firſt glance generally by common reaſon, without any artificial rules of logic: The chief care therefore is to ſee that the major propoſition be true, upon which the whole force of the argument uſually depends.

SECT. VI.

Of Compound Syllogiſms.

WE properly call thoſe compound ſyllogiſms, which are made of two or more ſimple ſyllogiſms, and may be reſolved into them. The chief kinds are theſe; Epichirema, Dilemma, Proſyllogiſmus, and Sorites.

I. Epichirema is a ſyllogiſm which contains the proof of the major or minor, or both, before it draws the concluſion. This is often uſed in writing, in public ſpeeches, and in common converſation; that ſo each part of the diſcourſe may be confirmed and put out of doubt, as it moves on toward the concluſion which was chiefly deſigned. Take this inſtance;

Sickneſs may be good for us, for it weans us from the pleaſures of life, and makes us think of dying;

But *we are uneaſy under ſickneſs, which appears by our impatience, complaints, groanings,* &c.

Therefore *we are uneaſy ſometimes under that which is good for us.*

Another inſtance you may ſee in Cicero's oration in defence of Milo, who had ſlain Clodius. His major propoſition is, that *it is lawful for one man to kill*

kill another who lies in wait to kill him; which he proves from the cuſtom of nations, from natural equity, examples, &c. his minor is, that 'Clodius laid wait for Milo;' which he proves by his arms, guards, &c. and then infers the concluſion, that *it was lawful for Milo to kill Clodius.*

II. A dilemma is an argument which divides the whole into all its parts or members by a disjunctive propoſition, and then infers ſomething concerning each part which is finally inferred concerning the whole. Inſtances of this are frequent; as, *In this life we muſt either obey our vicious inclinations, or reſiſt them: To obey them, will bring ſin and ſorrow; to reſiſt them is laborious and painful;* Therefore *we cannot be perfectly free from ſorrow or pain in this life.*

A dilemma becomes faulty or ineffectual three ways: Firſt, When the members of the diviſion are not well oppoſed, or not fully enumerated; for then the major is falſe. Secondly, When what is aſſerted concerning each part is not juſt; for then the minor is not true. Thirdly, When it may be retorted with equal force upon him who utters it.

There was a famous ancient inſtance of this caſe, wherein a dilemma was retorted. Euathlus promiſed Protagoras a reward when he had taught him the art of pleading, and it was to be paid the firſt day that he gained any cauſe in the court. After a conſiderable time Protagoras goes to law with Euathlus for the reward, and uſes this dilemma: *Either the cauſe will go on my ſide, or on yours; if the cauſe goes on my ſide, you muſt pay me according to the ſentence of the judge: If the cauſe goes on your ſide, you muſt pay me according to your bargain:* Therefore *whether the cauſe goes for me or againſt me, you muſt pay me the reward.* But Euathlus retorted the dilemma thus: *Either I ſhall gain the cauſe or loſe it: If I gain the cauſe, then nothing will be due to you according to the ſentence of the judge:* But *if I loſe the cauſe, nothing will be due to you according to my bar-*

gain: Therefore, *whether I loſe or gain the cauſe, I will not pay you, for nothing will be due to you.*

Note 1. A dilemma is uſually deſcribed as though it always proved the abſurdity, inconvenience, or unreaſonableneſs of ſome opinion or practice; and this is the moſt common deſign of it; but it is plain, that it may be alſo uſed to prove the truth or advantage of any thing propoſed; as, *In heaven we ſhall either have deſires or not: If we have no deſires, then we have full ſatisfaction; if we have deſires, they ſhall be ſatisfied as faſt as they ariſe;* Therefore *in heaven we ſhall be completely ſatisfied.*

Note 2. This ſort of argument may be compoſed of three or more members, and may be called a *trilemma.*

III. A proſyllogiſm is when two or more ſyllogiſms are ſo connected together, that the concluſion of the former is the major or the minor of the following; as, *Blood cannot think; but the ſoul of man thinks;* therefore *the ſoul of man is not blood;* but *the ſoul of a brute is his blood,* according to the ſcripture; therefore *the ſoul of man is different from the ſoul of a brute.* See another inſtance in the *introduction* to this treatiſe, p. 11.

IV. A ſorites, is when ſeveral middle terms are choſen to connect one another ſucceſſively in ſeveral propoſitions, till the laſt propoſition connects its predicate with the firſt ſubject Thus, *All men of revenge have their ſouls often uneaſy; uneaſy ſouls are a plague to themſelves; now to be one's own plague is folly in the extreme;* therefore *all men of revenge are extreme fools.*

The apoſtle, Rom. viii. 29. gives us an inſtance of this ſort of argument, if it were reduced to exact form: *Whom he foreknew, thoſe he predeſtinated; whom he predeſtinated, he called; whom he called, he juſtified; whom he juſtified, he glorified;* therefore *whom he foreknew he glorified.*

To theſe ſyllogiſms it may not be improper to add

add induction, which is, when from ſeveral particular propoſitions we infer one general; as, *The doctrine of the Socinians cannot be proved from the goſpels, it cannot be proved from the Acts of the Apoſtles, it cannot be proved from the epiſtles, nor the book of revelation;* therefore *it cannot be proved from the New Teſtament.*

Note, This ſort of argument is often defective, becauſe there is no due care taken to enumerate all the particulars on which the concluſion ſhould depend.

All theſe four kinds of ſyllogiſms in this ſection may be called redundant, becauſe they have more than three propoſitions. But there is one ſort of ſyllogiſm which is defective, and is called an *enthymem*, becauſe only the concluſion with one of the premiſes is expreſſed, while the other is ſuppoſed and reſerved in the mind: Thus, *There is no true religion without good morals;* therefore *a knave cannot be truly religious:* Or thus, *It is our duty to love our neighbours as ourſelves;* therefore *there are but few who perform their duty.*

Note, This is the moſt common ſort of argument amongſt mankind both in writing and in ſpeaking; for it would take up too much time, and too much retard the diſcourſe to draw out all our arguments in mood and figure. Beſides, mankind love to have ſo much compliment paid to their underſtandings, as to ſuppoſe that they know the major or minor, which is ſuppreſſed and implied, when you pronounce the other premiſe and the concluſion.

If there be any debate about this argument, the ſyllogiſm muſt be completed, in order to try its force and goodneſs, by adding the abſent propoſitions.

SECT. VII.

Of the Middle Terms, of Common Places or Topics, and Invention of Arguments.

THE next diviſion of ſyllogiſms is according to the middle term, which is made uſe of in the proof of the propoſition. Now the middle term (as we have hinted before) is often called argument, becauſe the force of the ſyllogiſm depends upon it. We muſt make a little delay here to treat briefly of the doctrine of topics, or places whence middle terms or arguments are drawn.

All arts and ſciences have ſome general ſubjects which belong to them, which are called topics, or common-places; becauſe middle terms are borrowed, and arguments derived from them for the proof of the various propoſitions which we have occaſion to diſcourſe of. The topics of grammar are etymology, noun, verb, conſtruction, ſignification, &c. The topics of logic are genus, ſpecies, difference, property, definition, diviſion, &c. The topics of ontology, or metaphyſics, are cauſe, effect, action, paſſion, identity, oppoſition, ſubject, adjunct, ſign, &c. The topics of morality, or ethics, are law, ſin, duty, authority, freedom of will, command, threatening, reward, puniſhment, &c. The topics of theology, are God, Chriſt, faith, hope, worſhip, ſalvation, &c.

To theſe ſeveral topics there belong particular obſervations, axioms, canons, or rules*, which are laid down in their proper ſciences; as,

Grammar hath ſuch canons, namely, *Words in a different conſtruction obtain a different ſenſe. Words derived from*

* A canon is a propoſition declaring ſome property of the ſubject, which is not expreſſed in the definition or diviſion of it.

from the same primitive may probably have some affinity in their original meaning, &c.

Canons in logic are such as these, *Every part of a division singly taken must contain less than the whole. A definition must be peculiar and proper to the thing defined. Whatever is affirmed or denied of the genus, may be affirmed or denied of the species*, &c.

Metaphysical canons are such as these; *Final causes belong only to intelligent agents. If a natural and necessary cause operate, the effect will follow*, &c; and there are large catalogues of many more in each distinct science.

Now it has been the custom of those who teach *logic* or *rhetoric*, to direct their disciples, when they want an argument, to consult the several topics which are suited to their subject of discourse, and to rummage over the definitions, divisions, and canons, that belong to each topic. This is called the invention of argument; and it is taught with much solemnity in some schools.

I grant there may be good use of this practice for persons of a lower genius, when they are to compose any discourse for the public; or for those of superior parts, to refresh their memory, and revive their acquaintance with a subject which has been long absent from their thoughts, or when their natural spirits labour under indisposition and languor; but when a man of moderate sagacity has made himself master of his theme by just diligence and inquiry, he has seldom need to run knocking at the doors of all the topics that he may furnish himself with argument or matter of speaking: And indeed it is only a man of sense and judgment that can use common places or topics well; for amongst this variety he only knows what is fit to be left out, as well as what is fit to be spoken.

By some logical writers this business of topics and invention is treated of in such a manner, with mathematical figures and diagrams, filled with the bar-

barous technical word, Napcas, Nipcis, Ropcros, Nofrop, &c. as though an ignorant lad were to be led mechanically in certain artificial harneſſes and trammels to find out arguments to prove or refute any propoſition whatſoever without any rational knowledge of the ideas. Now there is no need to throw words of contempt on ſuch a practice; the very deſcription of it carries reproof and ridicule in abundance.

SECT. VII.

Of Several Kinds of Arguments and Demonſtrations.

WE proceed now to the diviſion of ſyllogiſms according to the middle term; and in this part of our treatiſe the ſyllogiſms themſelves are properly called arguments, and are thus diſtributed.

I. Arguments are called grammatical, metaphyſical, phyſical, moral, mechanical, theological, &c. according to the art, ſcience, or ſubject, whence the middle term or topic is borrowed. Thus, if we prove that no man ſhould ſteal from his neighbour, becauſe the ſcripture forbids it, this is a theological argument: If we prove it from the laws of the land, it is political; but if we prove it from the principles of reaſon and equity, the argument is moral.

II. Arguments are either certain and evident, or doubtful and merely probable.

Probable arguments, are thoſe whoſe concluſions are proved by ſome probable mediums; as, *This hill was once a church-yard, or a field of battle*, becauſe *there are many human bones found here.* This is not a certain argument, for human bones might have been conveyed there ſome other way.

Evident and certain arguments are called demonſtrations; for they prove their concluſions by clear mediums and undoubted principles; and they are generally divided into theſe two ſorts.

1. De-

1. Demonſtrations *a priori*, which prove the effect by its neceſſary cauſe; as I prove *the ſcripture is infallibly true*, becauſe it is *the word of God who cannot lie.*

2. Demonſtrations *a poſteriori*, which infer the cauſe from its neceſſary effect; as, *I infer there hath been the hand of ſome artificer here*, becauſe *I find a curious engine.* Or, *I infer there is a God, from the works of his wiſdom in the viſible world.*

The laſt of theſe is called *demonſtratio τῦ ὅτι*, becauſe it proves only the exiſtence of a thing; the firſt is named *demonſtratio τῦ διότι*, becauſe it ſhews alſo the cauſe of exiſtence.

But *note*, That though theſe two ſorts of arguments are moſt peculiarly called *demonſtrations*, yet generally any ſtrong and convincing argument obtains that name; and it is the cuſtom of mathematicians to call their arguments *demonſtrations*, from what medium ſoever they derive them.

III. Arguments are divided into artificial and inartificial.

An artificial argument is taken from the nature and circumſtances of the things; and if the argument be ſtrong, it produces a natural certainty; as, *The world was firſt created by God*, becauſe *nothing can create itſelf.*

An inartificial argument, is the teſtimony of another, and this is called original, when our information proceeds immediately from the perſons concerned, or from eye or ear witneſſes of a fact: It is called tradition when it is delivered by the report of others.

We have taken notice before, that teſtimony is either divine or human. If the human teſtimony be ſtrong, it produces a moral certainty; but divine teſtimony produces a ſupernatural certainty, which is far ſuperior.

Note, Arguments taken from human teſtimony, as well as from laws and rules of equity, are called moral;

moral; and indeed the ſame name is alſo applied to every ſort of argument, which is drawn from the free actions of God, or the contingent actions of men, wherein we cannot ariſe to a natural certainty, but content ourſelves with an high degree of probability, which in many caſes is ſcarce inferior to natural certainty.

IV. Arguments are either direct or indirect. It is a direct argument, wherein the middle term is ſuch as proves the queſtion itſelf, and infers that very propoſition which was the matter of inquiry. An indirect, or oblique argument, proves or refutes ſome other propoſition, and thereby makes the thing inquired appear to be true by plain conſequence.

Several arguments are called indirect; as, (1.) When ſome contradictory propoſition is proved to be falſe, improbable or impoſſible: Or when upon ſuppoſition of the falſhood, or denial of the original propoſition, ſome abſurdity is inferred. This is cal- a proof *per impoſſibile*, or a *reductio abſurdam*. (2.) When ſome other propoſition is proved to be true which is leſs probable, and thence it follows that the original propoſition is true, becauſe it is more probable. This is an argument *ex minus probabili ad magis*. (3.) When any other propoſition is proved, upon which it was before agreed to yield the original queſtion. This is an argument *ex conceſſo*.

V. There is yet another rank of arguments which have Latin names; their true diſtinction is derived from the topics or middle terms which are uſed in them, though they are called an addreſs to our judgment, our faith, our ignorance, our profeſſion, our modeſty, and our paſſions.

1. If an argument be taken from the nature or exiſtence of things, and addreſſed to the reaſon of mankind, it is called *argumentum ad judicium*.

2. When it is borrowed from ſome convincing teſtimony, it is *argumentum ad fidem*, an addreſs to our *faith*.

3. When

3. When it is drawn from any inſufficient medium whatſoever, and yet the oppoſer has not ſkill to refute or anſwer it, this is *argumentum ad ignorantiam*, an addreſs to our *ignorance*.

4. When it is built upon the profeſſed principles or opinions of the perſon with whom we argue, whether the opinions be true or falſe, it is named *argumentum ad hominem*, an addreſs to our *profeſſed principles*. St. Paul often uſes this argument when he reaſons with the Jews, and when he ſays, *I ſpeak as a man*.

5. When the argument is fetched from the ſentiments of ſome wiſe, great, or good men, whoſe authority we reverence, and dare hardly oppoſe, it is called *argumentum ad verecundiam*, an addreſs to our *modeſty*.

6. I add finally, When an argument is borrowed from any topics which are ſuited to engage the inclinations and paſſions of the hearers on the ſide of the ſpeaker, rather than to convince the judgment, this is *argumentum ad paſſiones*, an addreſs to the *paſſions*; or if it be made publicly, it is called *ad populum*, or an *appeal to the people*.

After all theſe diviſions of ſyllogiſms or arguments ariſing from the middle term, there is one diſtinction proper to be mentioned which ariſes from the premiſes. An argument is called uniform, when both the premiſes are derived from the ſame ſpring of knowledge, whether it be ſenſe, reaſon, conſciouſneſs, human faith, or divine faith: But when the two premiſes are derived from different ſprings of knowledge, it is called a mixt argument.

Whether the concluſion muſt be called *human* or *divine*, when one or both premiſes are matters of *divine faith*, but the concluſion is drawn by *human reaſon*, I leave to be diſputed and determined in the ſchools of theology.

Thus the ſecond chapter is finiſhed, and a particular account given of all the chief kinds of ſyllogiſms, or arguments

arguments which are made uſe of among men, or treated of in logic, together with ſpecial rules for the formation of them, ſo far as is neceſſary.

If a ſyllogiſm agrees with the rules which are given for the conſtruction and regulation of it, it is called a *true argument*: If it diſagrees with theſe rules, it is a *paralogiſm*, or *falſe argument*: But when a falſe argument puts on the face and appearance of a true one, then it is properly called a *ſophiſm* or *fallacy*, which ſhall be the ſubject of the next chapter.

CHAP. III.

The Doctrine of Sophiſms.

FROM truth nothing can really follow but what is true: Whenſoever therefore we find a falſe concluſion drawn from premiſes which ſeem to be true, there muſt be ſome fault in the deduction or inference; or elſe one of the premiſes is not true in the ſenſe in which it is uſed in that argument.

When an argument carries the face of truth with it, and yet leads us into miſtake, it is a ſophiſm; and there is ſome need of a particular deſcription of theſe fallacious arguments, that we may with more eaſe and readineſs detect and ſolve them.

SECT. I.

Of ſeveral kinds of Sophiſms, and their Solution.

AS the rules of right judgment, and of good ratiocination, often coincide with each other, ſo the doctrine of prejudices, which was treated of in the ſecond part of logic, has anticipated a great deal of

of what might be ſaid on the ſubject of ſophiſms; yet I ſhall mention the moſt remarkable ſprings of falſe argumentation, which are reduced by logicians to ſome of the following heads.

I. The firſt ſort of ſophiſm is called *ignoratio elenchi*, or a miſtake of the *queſtion*; that is, when ſomething elſe is proved which has neither any neceſſary connexion or conſiſtency with the thing inquired, and conſequently gives no determination to the inquiry, though it may ſeem at firſt ſight to determine the queſtion; as, if any ſhould conclude that St. Paul was not a native Jew, by proving that he was born a Roman; or if they ſhould pretend to determine that he was neither Roman nor Jew, by proving that he was born at Tarſus in Cilicia: Theſe ſophiſms are refuted by ſhewing that all theſe three may be true; for he was born of Jewiſh parents in the city of Tarſus, and by ſome peculiar privilege granted to his parents, or his native city, he was born a denizen of Rome. Thus there is neither of theſe three characters of the apoſtle inconſiſtent with each other, and therefore the proving one of them true does not refute the others.

Or if the queſtion be propoſed, Whether exceſs of wine can be hurtful to him that drinks it? And the ſophiſter ſhould prove that it revives his ſpirits, it exhilerates his ſoul, it gives a man courage, and makes him ſtrong and active; and then he takes it for granted that he had proved his point.

But the reſpondent may eaſily ſhew, that though wine may do all this, yet it may be finally hurtful both to the ſoul and body of him that drinks it to exceſs.

Diſputers, when they grow warm, are ready to run into this fallacy: They dreſs up the opinion of their adverſary as they pleaſe, and aſcribe ſentiments to him which he doth not acknowledge; and when they have with a great deal of pomp attacked and confounded theſe images of ſtraw of their own making,

making, they triumph over their adverſary as though they had utterly confuted his opinion.

It is a fallacy of the ſame kind which a diſputant is guilty of, when he finds that his adverſary is too hard for him, and that he cannot fairly prove the queſtion firſt propoſed; he then with ſlyneſs and ſubtility turns the diſcourſe aſide to ſome other kindred point which he can prove, and exults in that new argument wherein his opponent never contradicted him.

The way to prevent this fallacy is by keeping the eye fixt on the preciſe point of diſpute, and neither wandering from it ourſelves, nor ſuffering our antagoniſt to wander from it, or ſubſtitute any thing elſe in its room.

II. The next ſophiſm is called *petitio principii*, or a *ſuppoſition of what is not granted*; that is, when any propoſition is proved by the ſame propoſition in other words, or by ſomething that is equally uncertain and diſputed: As if any one undertake to prove that the human ſoul is extended thro' all the parts of the body, becauſe it reſides in every member, which is but the ſame thing in other words. Or, if a Papiſt ſhould pretend to prove that *his religion is the only catholic religion*; and is *derived from Chriſt and his apoſtles, becauſe it agrees with the doctrine of all the fathers of the church, all the holy martyrs, and all the Chriſtian world throughout all ages*: Whereas this is the great point in conteſt, whether their religion does agree with that of all the ancient and the primitive Chriſtians, or no.

III. That ſort of fallacy which is called a circle, is very near akin to the *petitio principii*; as when one of the premiſes in a ſyllogiſm is queſtioned and oppoſed, and we intend to prove it by the concluſion: Or, when in a train of ſyllogiſms we prove the laſt by recurring to what was the concluſion of the firſt: The Papiſts are famous at this ſort of fallacy, when they prove the ſcriptures to be the word of God by the

the authority or infallible teſtimony of their church; and, when they are called to ſhew the infallible authority of their church, they pretend to prove it by the ſcriptures.

IV. The next kind of ſophiſm is called *non cauſa pro cauſa*, or the *aſſignation of a falſe cauſe*. This the Peripatetic philoſophers were guilty of continually; when they told us that certain beings, which they called *ſubſtantial forms*, were the ſprings of colour, motion, vegetation, and the various operations of natural beings in the animate and inanimate world; when they informed us that Nature was terribly afraid of a vacuum, and that this was the cauſe why the water would not fall out of a long tube if it was turned upſide down: The moderns as well as the ancients fall often into this fallacy, when they poſitively aſſign the reaſons of natural appearances, without ſufficient experiments to prove them.

Aſtrologers are overrun with this ſort of fallacies, and they cheat the people groſly, by pretending to tell fortunes, and to deduce the cauſe of the various occurrences in the lives of men from the various poſition of the ſtars and planets, which they call aſpects.

When comets and eclipſes of the ſun and moon are conſtrued to ſignify the fate of princes, the revolution of ſtates, famine, wars and calamities of all kinds, it is a fallacy that belongs to this rank of ſophiſms.

There is ſcarce any thing more common in human life than this ſort of human argument. If any two accidental events happen to concur, one is preſently made the cauſe of the other. If Titius wronged his neighbour of a guinea, and in ſix months after he fell down and broke his leg, weak men will impute it to the divine vengeance on Titius for his former injuſtice. This ſophiſm was found alſo in the early days of the world: For, when holy Job was ſurrounded with uncommon miſeries, his own friends inferred, that he was a moſt heinous criminal, and charged him with aggravated guilt as the cauſe of his calamities;

calamities; though God himſelf by a voice from heaven ſolved this uncharitable ſophiſm, and cleared his ſervant Job of that charge.

How frequent is it among men to impute crimes to wrong perſons? We too often charge that upon the wicked contrivance and premeditated malice of a neighbour, which aroſe merely from ignorance, or from unguarded temper. And, on the other hand, when we have a mind to excuſe ourſelves, we practiſe the ſame ſophiſm, and charge that upon our inadvertence or our ignorance, which perhaps was deſigned wickedneſs. What is really done by a neceſſity of circumſtances, we ſometimes impute to choice. And again, we charge that upon neceſſity which was really deſired and choſen.

Sometimes a perſon acts out of judgment, in oppoſition to his inclination; another perſon perhaps acts the ſame thing out of inclination, and againſt his judgment. It is hard for us to determine with aſſurance, what are the inward ſprings and ſecret cauſes of every man's conduct; and therefore we ſhould be cautious and ſlow in paſſing a judgment where the caſe is not exceeding evident; And if we ſhould miſtake, let it rather be on the charitable, than on the cenſorious ſide.

It is the ſame ſophiſm that charges mathematical learning with leading the minds of men to ſcepticiſm and infidelity, and as unjuſtly accuſes the new philoſophy of paving the way to hereſy and ſchiſm. Thus the reformation from Popery has been charged with the murder and blood of millions, which in truth is to be imputed to the tyranny of the princes and the prieſts, who would not ſuffer the people to reform their ſentiments and their practices according to the word of God. Thus Chriſtianity in the primitive ages was charged by the Heathens with all the calamities which befel the Roman empire, becauſe the Chriſtians renounced the heathen gods and idols.

The way to relieve ourſelves from thoſe ſophiſms, and

and to ſecure ourſelves from the danger of falling into them, is an honeſt and diligent inquiry into the real nature and cauſes of things, with a conſtant watchfulneſs againſt all thoſe prejudices that might warp the judgment aſide from truth in that inquiry.

V. The next is called *fallacia accidentis*, or a ſophiſm wherein we pronounce concerning the nature and eſſential properties of any ſubject according to ſomething which is merely accidental to it. This is akin to the former, and is alſo very frequent in human life. So if opium or the Peruvian bark has been uſed imprudently or unſucceſsfully, whereby the patient has received injury, ſome weaker people abſolutely pronounce againſt the uſe of the bark or opium upon all occaſions whatſoever, and are ready to call them poiſon. So wine has been the accidental occaſion of drunkenneſs and quarrels; learning and printing may have been the accidental cauſe of ſedition in a ſtate; the reading of the bible, by accident has been uſed to promote hereſies or deſtructive errors; and for theſe reaſons they have been all pronounced *evil things*. Mahomet forbade his followers the uſe of wine; the Turks diſcourage learning in their dominions; and the Papiſts forbid the ſcriptures to be read by the laity. But how very unreaſonable are theſe inferences, and theſe prohibitions which are built upon them!

VI. The next ſophiſm borders upon the former; and that is, when we argue from that which is true in particular circumſtances, to prove the ſame thing true abſolutely, ſimply, and abſtracted from all circumſtances; this is called in the ſchools a *a ſophiſm a dicto ſecundum quid ad dictum ſimpliciter*; as, *That which is bought in the ſhambles is eaten for dinner; Raw meat is bought in the ſhambles;* therefore *raw meat is eaten for dinner.* Or thus, *Livy writes fables and improbabilities when he deſcribes prodigies and omens;* therefore *Livy's Roman hiſtory is never to be believed in any thing.* Or thus, *There may be ſome miſtakes of tranſcribers in*

ſome

ſome part of the ſcriptures; therefore *ſcripture alone is not a ſafe guide for our faith.*

This ſort of ſophiſm has its reverſe alſo; as when we argue from that which is true ſimply and abſolutely, to prove the ſame thing true in all particular circumſtances whatſoever *; as if a *traitor* ſhould argue from the ſixth commandment, *Thou ſhalt not kill a man*, to prove that *he himſelf ought not to be hanged*: Or if a *madman* ſhould tell me, *I ought not to withhold his ſword from him, becauſe no man ought to withhold the property of another.*

Theſe two laſt ſpecies of ſophiſms are eaſily ſolved, by ſhewing the difference betwixt things in their abſolute nature, and the ſame things ſurrounded with peculiar circumſtances, and conſidered in regard to ſpecial times, places, perſons and occaſions; or by ſhewing the difference between a moral and a metaphyſical univerſality, and that the propoſition will hold good in one caſe, but not in the other.

VII. The ſophiſms of compoſition and diviſion come next to be mentioned.

The ſophiſm of compoſition, is when we infer any thing concerning ideas in a compound ſenſe, which is only true in a divided ſenſe. And when it is ſaid in the goſpel that Chriſt made the blind to ſee, and the deaf to hear, and the lame to walk, we ought not to infer hence that Chriſt performed contradictions; but thoſe who were blind before, were made to ſee, and thoſe who were deaf before, were made to hear, &c. So when the ſcripture aſſures us, The worſt of ſinners may be ſaved; it ſignifies only, that they who have been the worſt of ſinners may repent and be ſaved, not that they ſhall be ſaved in their ſins. Or if any one ſhould argue thus, *Two and three are even and odd;*

* This is arguing from a moral univerſality, which admits of ſome exceptions, in the ſame manner as may be argued from metaphyſical or a natural univerſality, which admits of no exception.

odd; Five are two and three; therefore *five are even and odd.* Here that is very falſly inferred concerning *two and three in union,* which is only true of them divided.

The *ſophiſm* of *diviſion,* is when we infer the ſame thing concerning ideas in a divided ſenſe, which is only true in a compounded ſenſe; as, if we ſhould pretend to prove that every ſoldier in the Grecian army put an hundred thouſand Perſians to flight, becauſe the Grecian ſoldiers did ſo. Or if a man ſhould argue thus, *Five is one number; Two and three are five;* therefore *two and three are one number.*

This ſort of ſophiſm is committed when the word *All* is taken in a collective and a diſtributive ſenſe, without a due diſtinction; as, if any one ſhould reaſon thus; *All the muſical inſtruments of the Jewiſh temple made a noble concert; The harp was a muſical inſtrument of the Jewiſh temple;* therefore *the harp made a noble concert.* Here the word *All* in the major is collective, whereas ſuch a concluſion requires that the word *All* ſhould be diſtributive.

It is the ſame fallacy when the univerſal word *All* or *No* refers to ſpecies in one propoſition, and to individuals in another; as, *All animals were in Noah's ark;* therefore *No animals periſhed in the flood:* Whereas in the premiſe *all animals* ſignifies *every kind of animals,* which does not exclude or deny the drowning of a thouſand individuals.

VIII. The laſt ſort of ſophiſm ariſes from our abuſe of the ambiguity of words, which is the largeſt and moſt extenſive kind of fallacy; and indeed ſeveral of the former fallacies might be reduced to this head.

When the words or phraſes are plainly equivocal, they are called *ſophiſms* of *equivocation;* as, if we ſhould argue thus: *He that ſends forth a book into the light, deſires it to be read; He that throws a book into the fire, ſends it into the light;* therefore *He that throws a book into the fire deſires it to be read.*

This

This ſophiſm, as well as the foregoing, and all of the like nature, are ſolved by ſhewing the different ſenſes of the words, terms or phraſes. Here *light* in the major propoſition ſignifies the *public view of the world;* in the minor it ſignifies the *brightneſs of flame and fire;* and therefore the ſyllogiſm has four terms, or rather, it has no middle term, and proves nothing.

But where ſuch groſs equivocations and ambiguities appear in arguments, there is little danger of impoſing upon ourſelves or others. The greateſt danger, and which we are perpetually expoſed to in reaſoning, is, where the two tenſes or ſignifications of one term are near akin, and not plainly diſtinguiſhed, and yet they are really ſufficiently different in their ſenſe, to lead us into great miſtakes, if we are not watchful. And indeed the greateſt part of controverſies in the ſacred or civil life ariſe from the different ſenſes that are put upon words, and the different ideas which are included in them; as have been ſhewn at large in the FIRST PART OF LOGIC, Chap. IV. which treats of words and terms.

There is, after all theſe, another ſort of ſophiſm, which is wont to be called an *imperfect enumeration*, or a *falſe induction*, when from a few experiments or obſervations men infer general theorems and univerſal propoſitions. But this is ſufficiently noticed in the foregoing chapter, where we treated of that ſort of ſyllogiſm which is called *induction*.

SECT. II.

Two general Teſts of true Syllogiſms, and Methods of Solving all ſophiſms.

BESIDES the ſpecial deſcription of true ſyllogiſms and ſophiſms already given, and the rules by which the one are framed, and the other refuted, there

there are theſe two general methods of reducing all ſyllogiſms whatſoever to a teſt of their truth or falſhood.

I. The firſt is, that the premiſes muſt, at leaſt implicitly, contain the concluſion; or thus, *One of the premiſes muſt contain the concluſion, and the other muſt ſhew that the concluſion is contained in it.* The reaſon of this rule is this; when any propoſition is offered to be proved, it is neceſſary to find another propoſition which confirms it, which may be called the containing propoſition; but becauſe the ſecond muſt not contain the firſt in an expreſs manner, and in the ſame words *, therefore it is neceſſary that a third or oſtenſive propoſition be found out, to ſhew that the ſecond propoſition contains the firſt, which was to be proved. Let us make an experiment of this ſyllogiſm: *Whoſoever is a ſlave to his natural inclinations is miſerable; The wicked man is a ſlave to his natural inclinations;* therefore *The wicked man is miſerable.* Here it is evident that the major propoſition contains the concluſion; for, under the general character of a ſlave to natural inclinations, a wicked man is contained or included; and the minor propoſition declares it; whence the concluſion is evidently deduced, *that the wicked man is miſerable.*

In many affirmative ſyllogiſms we may ſuppoſe either the major or the minor to contain the concluſion, and the other to ſhew it; for there is no great difference. But in negative ſyllogiſms it is the negative propoſition that contains the concluſion, and the affirmative propoſition ſhews it; as, *Every wiſe man maſters his paſſions; No angry man maſters his paſſions;* therefore *No angry man is wiſe.* Here

* It is confeſſed that conditional and disjunctive major propoſitions do expreſsly contain all that is in the concluſion; but then it is not in a certain and concluſive manner, but only in a dubious form of ſpeech, and mingled with other terms; and therefore it is not the ſame expreſs propoſition.

it is more natural to ſuppoſe the minor to be the contained propoſition; it is the minor implicitly denies wiſdom concerning an angry man, becauſe maſtering the paſſions is included in wiſdom, and the major ſhews it.

Note, This rule may be applied to complex and conjunctive, as well as ſimple ſyllogiſms, and is adapted to ſhew the truth or falſhood of any of them.

II. The ſecond is this; *As the terms in every ſyllogiſm are uſually repeated twice, ſo they muſt be taken preciſely in the ſame ſenſe in both places:* For the greateſt part of miſtakes that ariſe in forming ſyllogiſms is derived from ſome little difference in the ſenſe of one of the terms in the two parts of the ſyllogiſm wherein it is uſed. Let us conſider the following ſophiſms.

1. *It is a ſin to kill a man; A murderer is a man;* therefore *It is a ſin to kill a murderer.* Here the word *kill* in the firſt propoſition ſignifies to kill unjuſtly, or without law; in the concluſion it is taken abſolutely for putting a man to death in general, and therefore the inference is good.

2. *What I am, you are not;* but *I am a man;* therefore *You are not a man.* This is a relative ſyllogiſm: But if it be reduced to a regular categorical form, it will appear there is ambiguity in the terms, thus; *What I am, is a man; You are not what I am;* therefore *you are not a man.* Here *what I am* in the major propoſition is taken *ſpecially* for *my nature;* but in the minor propoſition the ſame words are taken *individually* for *my perſon;* therefore the *inference* muſt be falſe, for the ſyllogiſm does not take the term *what I am* both times in the ſame ſenſe,

3. *He that ſays you are an animal ſays true;* but *He that ſays you are a gooſe, ſays you are an animal;* therefore *He that ſays you are a gooſe ſays true.* In the major propoſition the word *animal* is the predicate of an incidental propoſition; which incidental propoſition being affirmative, renders the predicate of it particular,

particular, according to chap. II. ſect. 2. axiom 3. and conſequently the word *animal* there ſignifies only *human animality*. In the minor propoſition the word *animal*, for the ſame reaſon, ſignifies the *animality of a gooſe*; whereby it becomes an *ambiguous* term, and unfit to build the concluſion upon. Or if you ſay, the word *animal* in the minor is taken for *human animality*, then the minor is evidently *falſe*.

It is from this laſt general teſt of ſyllogiſms that we derive the cuſtom of the reſpondent in anſwering the arguments of the opponent, which is to diſtinguiſh upon the major or minor propoſition, and declare which term is uſed in two ſenſes, and in what ſenſe the propoſition may be true, and in what ſenſe it is falſe.

CHAP. IV.

Some General Rules to direct our Reaſoning.

MOST of the general and ſpecial directions given to form our judgments aright in the preceding part of logic might be rehearſed here; for the judgments which we paſs upon things are generally built on ſome ſecret reaſoning or argument by which the propoſition is ſuppoſed to be proved. But there may be yet ſome farther aſſiſtances given to our reaſoning powers in their ſearch after truth, and an obſervation of the following rules will be of great importance for that end.

RULE I. "Accuſtom yourſelves to clear and diſtinct ideas, to evident propoſitions, to ſtrong and convincing arguments." Converſe much with thoſe friends, and thoſe books, and thoſe parts

of learning, where you meet with the greateſt clearneſs of thought, and force of reaſoning. The mathematical ſciences, and particularly arithmetic, geometry, and mechanics, abound with theſe advantages: And if there were nothing valuable in them for the uſes of human life, yet the very ſpeculative parts of this ſort of learning are well worth our ſtudy; for by perpetual examples they teach us to conceive with clearneſs, to conduct our ideas and propoſitions in a train of dependence, to reaſon with ſtrength and demonſtration, and to diſtinguiſh between truth and falſhood. Something of theſe ſciences ſhould be ſtudied by every man who pretends to learning, and that, as Mr Locke expreſſes it, not ſo much to make us mathematicians, as to make us reaſonable creatures.

We ſhould gain ſuch a familarity with evidence of perception and force of reaſoning, and get ſuch a habit of diſcerning clear truths, that the mind may be ſoon offended with obſcurity and confuſion: Then we ſhall, as it were, naturally and with eaſe reſtrain our minds from raſh judgment, before we attain juſt evidence of the propoſition which is offered to us; and we ſhall with the ſame eaſe, and, as it were naturally, ſeize and embrace every truth that is propoſed with juſt evidence.

The habit of conceiving clearly, of judging juſtly, and of reaſoning well, is not to be attained merely by the happineſs of conſtitution, the brightneſs of genius, the beſt natural parts, or the beſt collection of logical precepts: It is cuſtom and practice that muſt form and eſtabliſh this habit. We muſt apply ourſelves to it till we perform all this readily, and without reflecting on rules. A coherent thinker and a ſtrict reaſoner is not to be made at once by a ſet of rules, any more than a good painter or muſician may be formed extempore, by an excellent lecture on muſic or painting. It is of infinite importance therefore in our younger years to be taught both the

the value and the practice of conceiving clearly and reaſoning right: For, when we are grown up to the middle of life, or paſt it, it is no wonder that we ſhould not learn good reaſoning, any more than that an ignorant clown ſhould not be able to learn fine language, dancing, or a courtly behaviour, when his ruſtic airs have growu up with him till the age of forty.

For want of this care, ſome perſons of rank and education dwell all their days among obſcure ideas; they conceive and judge always in confuſion; they take weak arguments for demonſtration; they are led away with the diſguiſes and ſhadows of truth. Now, if ſuch perſons happen to have a bright imagination, a volubility of ſpeech, and a copiouſneſs of language, they not only impoſe many errors upon their own underſtandings, but they ſtamp the image of their own miſtakes upon their neighbours alſo, and ſpread their errors abroad.

It is a matter of juſt lamentation and pity, to conſider the weakneſs of the common multitude of mankind in this reſpect, how they receive any thing into their aſſent upon the moſt trifling grounds. True reaſoning hath very little ſhare in forming their opinions. They reſiſt the moſt convincing arguments by an obſtinate adherence to their prejudices, and believe the moſt improbable things with the greateſt aſſurance. They talk of the abſtruſeſt myſteries, and determine upon them with the utmoſt confidence, and without juſt evidence either from reaſon or revelation. A confuſed heap of dark and inconſiſtent ideas, make up a good part of their knowledge in matters of philoſophy as well as religion, having never been taught the uſe and value of clear and juſt reaſoning.

Yet it muſt be ſtill confeſſed that there are ſome myſteries in religion, both natural and revealed, as well as ſome abſtruſe points in philoſophy, wherein the wiſe as well as the unwiſe muſt be content with ob-

ſcure ideas. There are ſeveral things, eſpecially relating to the inviſible world, which are unſearchable in our preſent ſtate, and therefore we muſt believe what revelation plainly dictates, though the ideas may be obſcure. Reaſon itſelf demands this of us: but we ſhould ſeek for the brighteſt evidence both of the ideas, and of the connexion of them, whereſoever it is attainable.

RULE II. "Enlarge your general acquaintance "with things daily, in order to attain a rich furni- "ture of topics, or middle terms, whereby thoſe "propoſitions which occur may be either proved "or diſproved; but eſpecially meditate and inquire "with great diligence and exactneſs into the nature, "properties, circumſtances, and relations of the "particular ſubject about which you judge or ar- "gue." Conſider its cauſes, effects, conſequences, adjuncts, oppoſites, ſigns, &c. ſo far as is needful to your preſent purpoſe. You ſhould ſurvey a queſtion round about, and on all ſides, and extend your views as far as poſſible to every thing that has a connexion with it. This practice has many advantages in it; as,

1. It will be a means to ſuggeſt to your mind proper topics for argument about any propoſition that relates to the ſame ſubject.

2. It will enable you with greater readineſs and juſtneſs of thought to give an anſwer to any ſudden queſtion upon that ſubject, whether it ariſes in your own mind, or is propoſed by others.

3. This will inſtruct you to give a plainer and ſpeedier ſolution of any difficulties that may attend the theme of your diſcourſe, and to refute the objections of thoſe who have eſpouſed a contrary opinion.

4. By ſuch a large ſurvey of the whole ſubject in all its properties and relations, you will be better ſecured from inconſiſtencies, that is, from aſſerting or denying any thing in one place, which contradicts

dicts what you have aſſerted or denied in another: And to attain theſe ends, an extenſiveneſs of underſtanding, and a large memory, are of unſpeakable ſervice.

One would be ready to wonder ſometimes how eaſily great and wiſe and learned men are led into aſſertions in ſome parts of the ſame treatiſe, which are found to be ſcarce conſiſtent with what they have aſſerted in other places: But the true reaſon is, the narrowneſs of the mind of man, that it cannot take in all the innumerable properties and relations of one ſubject with a ſingle view; and therefore, whilſt they are intent on one particular part of their theme, they bend all their force of thought to prove or diſprove ſome propoſition that relates to that part, without a ſufficient attention to the conſequences which may flow from it, and which may unhappily affect another part of the ſame ſubject; and by this means they are ſometimes led to ſay things which are inconſiſtent. In ſuch a caſe, the great dealers in diſpute and controverſy take pleaſure to caſt nonſenſe and ſelf-contradiction on their antagoniſt, with huge and hateful reproaches. For my part, I rather chooſe to pity human nature, whoſe neceſſary narrowneſs of underſtanding expoſes us all to ſome degrees of this frailty. But the moſt extenſive ſurvey poſſible of our whole ſubject is the beſt remedy againſt it. It is our judging and arguing upon a partial view of things, that expoſes us to miſtakes, and puſhes us into abſurdities, or at leaſt to the very borders of them.

RULE III. "In ſearching the knowledge of things, "always keep the preciſe point of the preſent queſ- "tion in your eye. Take heed that you add no- "thing to it while you are arguing, nor omit any "part of it." Watch carefully leſt any new ideas ſlide in to mingle themſelves either with the ſubject or the predicate. See that the queſtion be not altered by the ambiguity of any word taken in different

ſenſes; nor let any ſecret prejudices of your own, or the ſophiſtical arts of others, cheat your underſtanding, by changing the queſtion, or ſhuffling in any thing elſe in its room

And for this end it is uſeful to keep the preciſe matter of inquiry as *ſimple* as may be, and diſengaged from a complication of ideas, which do not neceſſarily belong to it. By admitting a complication of ideas, and taking too many things at once into one queſtion, the mind is ſome times dazzled and bewildered; and the truth is loſt in ſuch a variety and confuſion of ideas; whereas, by limiting and narrowing the queſtion, you take a fuller ſurvey of the whole of it.

By keeping the ſingle point of inquiry in our conſtant view, we ſhall be ſecured from ſudden, raſh, and impertinent reſponſes and determinations, which ſome have obtruded inſtead of ſolutions and ſolid anſwers, before they perfectly knew the queſtions.

RULE IV. "When you have exactly conſidered "the preciſe point of inquiry, or what is unknown "in the queſtion, then conſider what, and how "much you know already of this queſtion, or of "the ideas and terms of which it is compoſed." It is by a compariſon of the known and unknown parts of the queſtion together that you find what reference the part known hath unto, or what connection it hath with the thing that is ſought: Thoſe ideas, whereby the known and unknown parts of the queſtion are connected, will furniſh you with middle terms or arguments whereby the thing propoſed may be proved or diſproved.

In this part of your work, namely, comparing ideas together, take due time, and be not two haſty to come to a determination, eſpecially in points of importance. Some men, when they ſee a little agreement or diſagreement between ideas, they preſume a great deal, and ſo jump into the concluſion: This is a ſhort way

way to fancy, opinion and conceit, but a moſt unſafe and uncertain way to true knowledge and wiſdom.

RULE. V. "In chooſing your middle terms or arguments to prove any queſtion, always take ſuch topics as are ſureſt, and leaſt fallible, and which carry the greateſt evidence and ſtrength with them." Be not ſo ſolicitous about the number, as the weight of your arguments, eſpecially in proving any propoſition which admits of natural certainty, or of complete demonſtration. Many times we do injury to a cauſe by dwelling upon trifling arguments. We amuſe our hearers with uncertainties, by multiplying the number of feeble reaſonings, before we mention thoſe which are more ſubſtantial, concluſive, and convincing. And too often we yield up our aſſent to mere probable arguments, where certain proofs may be obtained.

Yet it muſt be confeſſed, there are many caſes wherein the growing numbers of probable arguments increaſes the degree of probability, and gives a great and ſufficient confirmation to the truth which is ſought; as,

(1.) When we are inquiring the true ſenſe of any word or phraſe, we are more confirmed in the ſignification of it, by finding the ſame expreſſion ſo uſed in ſeveral authors, or in ſeveral places of the ſame author.

(2.) When we are ſearching out the true meaning or opinion of any writer, or inquiring into any ſacred doctrine of ſcripture, we come to a ſurer determination of the truth by ſeveral diſtinct places wherein the ſame thing is expreſſed or plainly implied; becauſe it is not ſo probable that an honeſt ſkilful reader ſhould miſtake the meaning of the writer in many places, as he may in one or two.

(3.) When we would prove the importance of any ſcriptural doctrine or duty, the multitude of texts wherein it is repeated and inculcated upon the reader ſeems naturally to inſtruct us that it is a

matter of greater importance than other things which are but ſlightly or ſingly mentioned in the Bible.

(4.) In ſearching out matters of fact in times paſt or in diſtant places, in which caſe moral evidence is ſufficient, and moral certainty is the utmoſt which can be attained, here we derive a greater aſſurance of the truth of it by a number of perſons, or a multitude of circumſtances concurring to bear witneſs to it.

(5.) From many experiments in natural philoſophy we more ſafely infer a general theorem, than we can from one or two.

(6.) In matters which require preſent practice, both ſacred and civil, we muſt content ourſelves oftentimes with a mere preponderation of probable reaſons or arguments. Where there are ſeveral reaſons on each ſide, for and againſt a thing that is to be done or omitted, a ſmall argument added to the heap may juſtly turn the balance on one ſide, and determine the judgment, as I have noted in the Second Part of Logic.

To conclude: A growing acquaintance with matters of learning, and a daily improvement of our underſtandings in affairs human and divine, will beſt teach us to judge and diſtinguiſh in what caſes the number of arguments adds to their weight and force: It is only experience can fully inform us when we muſt be determined by probable topics, and when we muſt ſeek and expect demonſtrations.

RULE VI. "Prove your concluſion (as far as poſ-"ſible) by ſome propoſitions that are in themſelves "more plain, evident, and certain, than the con-"cluſion; or at leaſt ſuch as are more known, and "more intelligible to the perſon whom you would "convince." If we ſhall neglect this rule, we ſhall endeavour to enlighten that which is obſcure by ſomething equally or more obſcure, and to confirm that which is doubtful by ſomething equally or more uncertain. Common ſenſe dictates to all men, that

that it is impoſſible to eſtabliſh any truth, and to convince others of it, but by ſomething that is better known to them than that truth is.

Rule VII. "Labour in all your arguings to enlighten the underſtanding, as well as to conquer and captivate the judgment." Argue in ſuch a manner as may give a natural, diſtinct, and ſolid knowledge of things to your hearers, as well as to force their aſſent by a mere proof of the queſtion. Now, to attain this end, the chief topic or medium of your demonſtration ſhould be fetched, as much as poſſible, from the nature of the thing to be proved, or from thoſe things which are moſt naturally connected with it.

Geometricians ſometimes break this rule without neceſſity, two ways, namely,

1. When they prove one propoſition only by ſhewing that abſurdities will follow if the contradictory propoſition be ſuppoſed or admitted: This is called *Reductio ad abſurdum* *, or *Demonſtratio per impoſſibile*. As, for inſtance, When they prove all the *radii* of a circle to be equal, by ſuppoſing one *radius* to be longer or ſhorter than another, and then ſhewing what conſequences will follow. This, I confeſs, forces the aſſent, but it does not enlighten the mind, by ſhewing the true reaſon and cauſe why all *radii* are equal, which is derived from the very conſtruction of a circle: For, ſince a circle is formed by fixing one end of a ſtraight line in the centre,

* Note, This rule chiefly refers to the eſtabliſhment of ſome truth, rather than the refutation of error. It is a very common and uſeful way of arguing, to refute a falſe propoſition, by ſhewing what evident falſhood or abſurdity will follow from it: For what propoſition ſoever is really abſurd and falſe, does effectually prove that principle to be falſe from which it is derived; ſo that this way of refuting an error is not ſo uſually called *Reductio ad Abſurdum*.

and moving the other end round, (or, which is all one, by compaſſes kept open to a certain extent), it follows evidently that every part of the circumference being thus deſcribed, muſt be equally diſtant from the centre, and therefore the *Radii*, which are lines from the centre to the circumference, muſt be all equal.

2. Geometricians forget this rule when they heap up many far-fetched lines, figures, and proportions to prove ſome plain, ſimple, and obvious propoſition. This is called a *Demonſtration per aliena et remota*, or an argument from unnatural and remote mediums: As if, in order to prove the *radii* of a circle are all equal, I ſhould make ſeveral triangles and ſquares about the circle, and then from ſome properties and propoſitions of ſquares and triangles prove that the *radii* of a circle are equal

Yet it muſt be confeſſed, that ſometimes ſuch queſtions happen, that it is hardly poſſible to prove them by direct arguments drawn from the nature of things, *&c.* and then it may not only be lawful but neceſſary to uſe indirect proofs, and arguments drawn from remote mediums, or from the abſurdity of the contradictory ſuppoſitions.

Such indirect and remote arguments may alſo be ſometimes uſed to confirm a propoſition, which has been before proved by arguments more direct and immediate.

Rule VIII. Though arguments ſhould give light to the ſubject, as well as conſtrain the aſſent, yet you muſt learn "to diſtinguiſh well between an explication and an argument; and neither impoſe upon yourſelves, nor ſuffer yourſelves to be impoſed upon by others, by miſtaking a mere illuſtration for a convincing reaſon.

Axioms themſelves, or ſelf-evident propoſitions, may want an explication or illuſtration, though they are not to be proved by reaſoning.

Similitudes and alluſions have oftentimes a very happy

happy influence to explain ſome difficult truth, and to render the idea of it familiar and eaſy. Where the reſemblance is juſt and accurate, the influence of a ſimile may proceed ſo far as to ſhew the poſſibility of the thing in queſtion: But ſimilitudes muſt not be taken as a ſolid proof of the truth or exiſtence of thoſe things to which they have a reſemblance. A too great deference paid to ſimilitudes, or an utter rejection of them, ſeem to be two extremes, and ought to be avoided. The late ingenious Mr. Locke, even in his inquries after truth, makes great uſe of *ſimiles* for frequent illuſtration, and is very happy in the invention of them; though he warns us alſo leſt we miſtake them for concluſive arguments.

Yet let it be noted here, that a parable or ſimilitude uſed by an author may give a ſufficient proof of the true ſenſe and meaning of that author, provided that he draw not this ſimilitude beyond the ſcope and deſign for which it was brought; as, when our Saviour affirms, *Rev.* iii. 3. *I will come on thee as a thief;* this will plainly prove that he deſcribes the unexpectedneſs of his appearance, though it is by no means to be drawn to ſignify any injuſtice in his deſign.

RULE IX. "In your whole courſe of reaſoning "keep your mind ſincerely intent on the purſuit "of truth; and follow ſolid argument whereſo-"ever it leads you. Let not a party ſpirit, nor any "paſſion or prejudice whatſoever, ſtop or avert the "current of your reaſoning in queſt of true know-"ledge."

When you are inquiring therefore into any ſubject, maintain a due regard to the arguments and objections on both ſides of a queſtion: Conſider, compare, and balance them well before you determine for one ſide. It is a frequent, but a very faulty practice, to hunt after arguments only to make good one ſide of a queſtion, and entirely to neglect

and

and refuſe thoſe which favour the other ſide. If we have not given a due weight to arguments on both ſides, we do but wilfully miſguide our judgment, and abuſe our reaſon, by forbidding its ſearch after truth. When we eſpouſe opinions by a ſecret bias on the mind, through the influence of fear, hope, honour, credit, intereſt, or any other prejudice, and then ſeek arguments only to ſupport thoſe opinions, we have neither done our duty to God, nor to ourſelves, and it is a matter of mere chance if we ſtumble upon truth in our way to eaſe and preferment. The power of reaſoning was given us by our Maker for this very end, to purſue truth; and we abuſe one of his richeſt gifts, if we baſely yield it up to be led aſtray by any of the meaner powers of nature, or the periſhing intereſts of this life. Reaſon itſelf, if honeſtly obeyed, will lead us to receive the divine revelation of the goſpel where it is duly propoſed, and this will ſhew us the path of life everlaſting.

THE

THE

FOURTH PART

OF

LOGIC.

Of Disposition and Method.

IT is not merely a clear and distinct idea, a well formed proposition, or a just argument, that is sufficient to search out and communicate the knowledge of a subject. There must be a variety and series of them disposed in a due manner, in order to attain this end: And therefore it is the design of the last part of Logic to teach us the art of method. It is that must secure our thoughts from that confusion, darkness, and mistake, which unavoidably attend the meditations and discourses even of the brightest genius who despises the rules of it.

I. We

I. We ſhall here conſider the nature of method, and the ſeveral kinds of it.

II. Lay down the general rules of method, with a few particulars under them.

CHAP. I.

Of the Nature of METHOD, *and the ſeveral Kinds of it, namely, Natural and Arbitrary, Synthetic and Analytic.*

METHOD, taken in the largeſt ſenſe, implies the placing of ſeveral things, or performing ſeveral operations in ſuch an order, as is moſt convenient to attain ſome end propoſed: And in this ſenſe it is applied to all the works of nature and art, to all the divine affairs of creation and providence; and to the artifices, ſchemes, contrivances and practices of mankind, whether in natural, civil, or ſacred affairs.

Now this orderly diſpoſition of things includes the ideas of prior, poſterior, and ſimultaneous; of ſuperior, inferior, aud equal; of beginning, end, and middle, &c. which are deſcribed more particularly among the general affections of being, in ontology.

But, in logic, method is uſually taken in a more limited ſenſe, and the nature of it is thus deſcribed: *Method is the diſpoſition of a variety of thoughts on any ſubject in ſuch order as may beſt ſerve to find out unknown truths, to explain and confirm truths that are known, or to fix them to the memory.*

It is diſtributed into two general kinds, namely, natural and arbitrary.

Natural

Natural method is that which obſerves the order of nature, and proceeds in ſuch a manner as that the knowledge of the things which follow depends in a great meaſure on the things which go before, and this is twofold, *viz. ſynthetic* and *analytic**.

Synthetic method is that which begins with the parts †, and leads onward to the knowledge of the whole; it begins with the moſt ſimple principles, and genera truths, and proceeds by degrees to that

* The word analyſis has three or four ſenſes, which it may not be improper to take notice of here.

1. It ſignifies the general and particular heads of a diſcourſe, with their mutual connections, both co-ordinate and ſubordinate, drawn out by way of abſtract into one or more tables, which are frequently placed like an *index* at the beginning or end of a book.

2. It ſignifies the reſolving of a diſcourſe into its various ſubjects and argumeuts, as when any writing of the ancient prophets is reſolved into the prophetical, hiſtorical, doctrinal, and practical parts of it; it is ſaid to be analyſed in general. When a ſentence is diſtinguiſhed into the nouns, the verbs, pronouns, adverbs, and other particles of ſpeech, which compoſe it, then it is ſaid to be analyſed grammatically. When the ſame ſentence is diſtinguiſhed into ſubject and predicate, propoſition, argument, act, object, cauſe, effect, adjunct, oppoſite, &c. then it is analyſed logically and metaphyſically. This laſt is what is chiefly meant in the theological ſchools, when they ſpeak of analyſing a text of ſcripture.

3. Analyſis ſignifies particularly the ſcience of algebra, wherein a queſtion being propoſed, one or more letters, as, x, y, z, or vowels, as, a, e, i, &c. are made uſe of to ſignify the unknown number, which being intermingled with ſeveral known numbers in the queſtion, is at laſt, by the rules of art, ſeparated or releaſed from that entanglement, and its particular value is found out by ſhewing its equation or equality to ſome known number.

4. It ſignifies analytical method, as here explained in logic.

† Note, It is confeſſed that ſynthеſis often begins with the genus and proceeds to the ſpecies and individuals. But the genus or generic nature is then conſidered only as a phyſical or eſſential part of the ſpecies, though it be ſometimes called an univerſal or logical whole. Thus ſynthetic method maintains its own deſcription ſtill, for it begins with the parts, and proceeds to the whole; which is compoſed of them.

that which is drawn from them, or compounded of them: And therefore it is called the method of compoſition.

Analytic method takes the whole compound as it finds it, whether it be a ſpecies or an individual, and leads us into the knowledge of it, by reſolving it into its firſt principles or parts, its generic nature, and its ſpecial properties; and therefore it is called the method of reſolution.

As ſynthetic method is generally uſed in teaching the ſciences after they are invented, ſo analytic is moſt practiſed in finding out things unknown. Though it muſt be confeſſed that both methods are ſometimes employed to find out truth and to communicate it.

If we know the parts of any ſubject eaſier and better than the whole, we conſider the parts diſtinctly, and by putting them together, we come to the knowledge of the whole. So in grammar we learn firſt to know letters, we join them to make ſyllables, out of ſyllables we compoſe words, and out of words we make ſentences and diſcourſes. So the phyſician and apothecary knows the nature and powers of his ſimples, namely, his drugs, his herbs, his minerals, &c.; and putting them together, and conſidering their ſeveral virtues, he finds what will be the nature and powers of the bolus, or any compound medicine: This is the ſynthetic method.

But if we are better acquainted with the whole than we are with particular parts, then we divide or reſolve the whole into its parts, and thereby gain a diſtinct knowledge of them. So in vulgar life we learn in the groſs what plants or minerals are; and then by chemiſtry we gain the knowledge of ſalt, ſulphur, ſpirit, water, earth, which are the principles of them. So we are firſt acquainted with the whole body of an animal, and then by anatomy or diſſection we come to learn all the inward and outward parts of it. This is the analytic method.

According

According to this moſt general and obvious idea of ſynthetic and analytic method, they differ from each other as the way which leads up from a valley to a mountain differs from itſelf, conſidered as it leads down from the mountain to the valley; or, as St Matthew and St Luke prove *Chriſt to be the ſon of Abraham; Luke* finds it out by analyſis, riſing from Chriſt to his anceſtors; Mathew teaches it in the ſynthetic method, begining from Abraham, and ſhewing that Chriſt is found among his poſterity. Therefore it is an uſeful thing in the ſciences, when we have by analyſis found out a truth, we uſe the ſynthetic method to explain and deliver it, and prove it to be true.

In this eaſy view of things, theſe two kinds of method may be preſerved conſpicuouſly, and entirely diſtinct: But the ſubjects of knowledge being infinite, and the ways whereby we arrive at this knowledge being almoſt infinitely various, it is very difficult, and almoſt impoſſible, always to maintain the preciſe diſtinction beween theſe two methods.

This will evidently appear in the following obſervations.

Obſerv. I. The analytic method being uſed chiefly to find out things unknown, it is not limited or confined merely to begin with ſome whole ſubject, and proceed to the knowledge of its parts, but it takes its riſe ſometimes from any ſingle part or property, or from any thing whatſoever that belongs to a ſubject which happens to be firſt and moſt eaſily known, and thereby inquires into the more abſtruſe and unknown parts, properties, cauſes, effects, and modes of it, whether abſolute or relative: As, for inſtance,

(1.) Analyſis finds out cauſes by their effects. So in the ſpeculative part of natural philoſophy, when we obſerve light, colours, motion, hardneſs, ſoftneſs, and other properties and powers of bodies, or any of the common or uncommon arpearances of things, either on earth or in heaven, we ſearch out the cauſes of them

them. So by the various creatures we find out the Creator, and learn his wiſdom, power and goodneſs.

(2.) It finds out effects by their cauſes. So the practical and mechanical part of natural philoſophy conſiders ſuch powers of motion, as the wind, the fire, and the water, &c. and then contrives what uſes they may be applied to, and what will be their effects, in order to make mills and engines of various kinds.

(3.) It finds out the general and ſpecial nature of a thing, by conſidering the various attributes of the individuals, and obſerving what is common and what is proper, what is accidental, and what is eſſential. So by ſurveying the colour, the ſhape, motion, reſt, place, ſolidity, and extenſion of bodies, we come to find that the nature of body in general is ſolid extenſion; becauſe all other qualities of bodies are changeable; but this belongs to *all* bodies, and it endures through all changes; and becauſe this is proper to body alone, and agrees not to any thing elſe; and it is the foundation of all other properties.

(4.) It finds out the remaining properties or parts of a thing, by having ſome parts or properties given. So the area of a triangle is found by knowing the height and the baſe. So by having two ſides and an angle of a triangle given, we find the remaining ſide and angles. So when we know cogitation is the prime attribute of a ſpirit, we infer its immateriality, and thence its immortality.

(5.) Analyſis finds the means neceſſary to attain a propoſed end, by having the end firſt aſſigned. So in moral, political, economical affairs, having propoſed the government of ſelf, a family, a ſociety, or a nation, in order to their beſt intereſt, we conſider and ſearch out what are the proper laws, rules and means to effect it. So in the practices of artificers, manufacturers of various kinds, the end being propoſed, as, making cloth, houſes, ſhips, &c. we find out ways of compoſing thoſe things for the ſeveral uſes of human life. But the putting any of theſe means in execution to attain the end, is ſynthetic method.

Many

Many other particulars might be repreſented to ſhew the various forms of analytic method, whereby truth is found out, and ſome of them come very near to ſynthetic, ſo hardly as to be diſtinguiſhed.

Obſerv. II. Not only the inveſtigation of truth, but the communication of it alſo, is often practiſed in ſuch a method, as neither agrees preciſely to ſynthetic or analytic. Some ſciences, if you conſider the whole of them in general, are treated in ſynthetic order; ſo phyſics, or natural philoſophy, begins uſually with an account of the general nature and properties of matter or bodies, and by degrees deſcends to conſider the particular ſpecies of bodies, with their powers and properties; yet it is very evident, that when philoſophers come to particular plants and animals, then by chemiſtry and anatomy they analyſe or reſolve thoſe bodies into their ſeveral conſtituent parts. On the other hand, logic is begun in analytic method; the whole is divided into its integral parts, according to the four operations of the mind; yet here and there ſynthetic method is uſed in the particular branches of it, for it treats of ideas in general firſt, and then deſcends to the ſeveral ſpecies of them; it teaches how propoſitions are made up of ideas, and ſyllogiſms of propoſitions, which is the order of compoſition.

The ancient ſcholaſtic writers have taken a great deal of pains, and engaged in uſeleſs diſputes, about theſe two methods, and after all have not been able to give ſuch an account of them as to keep them entirely diſtinct from each other, neither in the theory nor in the practice. Some of the moderns have avoided this confuſion in ſome meaſure by confining themſelves to deſcribe almoſt nothing elſe but the ſynthetic anylitic methods of geometricians and algrebraiſts, whereby they have too much narrowed the nature and rules of method, as though every thing were to be treated in mathematical forms.

Upon the whole, I conclude that neither of theſe

two

two methods ſhould be two ſcrupulouſly and ſuperſtitiouſly purſued, either in the invention or in the communication of knowledge. It is enough, if the order of nature be but obſerved in making the knowledge of things following depend on the knowledge of the things which go before. Oftentimes a mixed method will be found moſt effectual for theſe purpoſes; and indeed a wiſe and judicious proſpect of our main end and deſign muſt regulate all method whatſoever.

Here the rules of natural method ought to be propoſed, (whether it be analytic or ſynthetic, or mixed:) but it is proper firſt to give ſome account of arbitrary method, leſt it be thruſt at too great a diſtance from the firſt mention of it.

Arbitrary method leaves the order of nature, and accommodates itſelf to many purpoſes; ſuch as, to treaſure up things, and retain them in memory; to to harrangue and perſuade mankind to any practice in the religious or the civil life; or to delight, amuſe, or entertain the mind.

As for the aſſiſtance of the memory, in moſt things a natural order has an happy influence; for reaſon itſelf deducing one thing from another, greatly aſſiſts the memory by the natural connexion and mutual dependence of things. But there are various other methods which mankind have made uſe of for this purpoſe, and indeed there are ſome ſubjects that can hardly be reduced either to analyſis or ſyntheſis.

In reading or writing hiſtory, ſome follow the order of the governors of a nation, and diſpoſe every tranſaction under their particular reigns: So the ſacred books of Kings and Chronicles are written. Some write in annals or journals, and make a new chapter of every year. Some put all thoſe tranſactions together which relate to one ſubject; that is, all the affairs of one war, one league, one confederacy, one council, &c. tho' it laſted many years, and under many rulers.

So in writing the lives of men, which is called *biography*,

graphy, ſome authors follow the tract of their years, and place every thing in the preciſe order of time when it occurred: Others throw the temper and character of the perſons, their private life, their public ſtations, their perſonal occurrences, their domeſtic conduct, their ſpeeches, their books or writings, their ſickneſs and death, into ſo many diſtinct chapters.

In chronology ſome writers make their epochas to begin all with one letter: So in the book called *Ductor Hiſtoricus*, the periods all begin with C; as, Creation, Cataclyſm, or deluge, Chaldean Empire, Cyrus, Chriſt, Conſtantine &c. Some divide their accounts of time according to the four great monarchies; Aſſyrian, Perſian, Grecian, and Roman. Others think it ſerves the memory beſt to divide all their ſubjects into the remarkable number of ſevens: ſo Prideaux has written an introduction to hiſtory. And there is a book of divinity called *Faſciculus Contriverſarium*, by an author of the ſame name, written in the ſame method, wherein every controverſy has ſeven queſtions belonging to it; though the order of nature ſeems to be too much neglected by a confinement to this ſeptenary number.

Thoſe writers and ſpeakers whoſe chief buſineſs is to amuſe or delight, to allure, terrify, or perſuade mankind, do not confine themſelves to any natural order, but in a cryptical or hidden method, adapt every thing to their deſigned ends. Sometimes they omit thoſe things which might injure their deſign, or grow tedious to their hearers, though they ſeem to have a neceſſary relation to the point in hand: Sometimes they add thoſe things which have no great references to the ſubject, but are ſuited to allure or refreſh the mind and the ear. They dilate ſometimes, and flouriſh long upon little incidents, and they ſkip over, and but lightly touch the drier parts of their theme. They place the firſt things laſt, and the laſt things firſt, with wondrous art; and yet ſo manage it as to conceal their artifice, and lead the ſenſes and paſſions

paſſions of their hearers into a pleaſing and powerful captivity.

It is chiefly poeſy and oratory that require the practice of this kind of arbitrary method: They omit things eſſential which are not beautiful, they inſert little needleſs circumſtances, and beautiful digreſſions, they invert times and actions, in order to place every thing in the moſt affecting light; and for this end, in their practice they neglect all logical forms; yet a good acquaintance with the forms of logic and natural method is of admirable uſe to thoſe who would attain theſe arts in perfection; hereby they will be able to range their own thoughts in ſuch a method and ſcheme, as to take a more large and comprehenſive ſurvey of their ſubject and deſign in all the parts of it; and by this means they will better judge what to chooſe and what to refuſe, and how to dreſs and manage the whole ſcene before them, ſo as to attain their own ends with greater glory and ſucceſs.

CHAP. II.

The Rules of METHOD, *General and Particular.*

THE general rules of true method in the purſuit or communication of knowledge, may be all compriſed under the following heads. It muſt be (1.) *Safe.* (2.) *Plain* and *eaſy.* (3.) *Diſtinct.* (4.) *Full* or without *defect.* (5.) *Short* or without *ſuperfluity.* (6.) *Proper* to the *ſubject* and the *deſign.* (7.) *Connected.*

RULE I. Among all the qualifications of a good method, there is none more neceſſary and important than that it ſhould be ſafe, and ſecure from error; and to this end theſe four particular or ſpecial directions ſhould be obſerved.

1. "Uſe great care and circumſpection in laying "the foundation of your diſcourſe, or your ſcheme "of thoughts upon any ſubject." Thoſe propoſitions which are to ſtand as firſt principles, and on which

which the whole argument depends, muſt be viewed on all ſides with the utmoſt accuracy, leſt an error being admitted there, ſhould diffuſe itſelf through the whole ſubject. See therefore that your general definitions or deſcriptions are as accurate as the nature of the thing will bear: See that your general diviſions and diſtributions be juſt and exact, according to the rules given in the firſt part of logic: See that your *axioms* be ſufficiently evident, ſo as to demand the aſſent of thoſe that examine them with due attention: See that your firſt and more immediate conſequences from theſe principles be well drawn; and take the ſame care of all other propoſitions that have a powerful and ſpreading influence, through the ſeveral parts of your diſcourſe.

For want of this care, ſometimes a large treatiſe has been written by a long deduction of conſequences from one or two doubtful principles, which principles have been effectually refuted in a few lines, and thus the whole treatiſe has been deſtroyed at once: So the largeſt and faireſt building ſinks and tumbles to the ground, if the foundation and corner-ſtones of it are feeble and inſufficient

2. "It is a very adviſeable thing that your pri- "mary and fundamental propoſitions be not only "evident and true, but they ſhould be made a little "familiar to the mind by dwelling upon them be- "fore you proceed farther." By this means you will gain ſo full an acquaintance with them, that you may draw conſequences from them with much more freedom, with greater variety, brighter evidence, and with a firmer certainty, than if you have but a ſlight and ſudden view of them.

3. "As you proceed in the connection of your "arguments, ſee that your ground be made firm in "every ſtep." See that every link of your chain of reaſoning be ſtrong and good: For if but one link be feeble and doubtful, the whole chain of arguments feels the weakneſs of it, and lies expoſed-

to every objector, and the original queſtion remains undetermined.

4. " Draw up all your propoſitions and arguments " with ſo much caution, and expreſs your ideas " with ſuch a juſt limitation, as may preclude or " anticipate any objections." Yet remember this is only to be done, as far as it is poſſible, without too much entangling the queſtion, or introducing complicated ideas, and obſcuring the ſenſe. But if ſuch a cautious and limited dreſs of the queſtion ſhould render the ideas too much complicated, or the ſenſe obſcure, then it is better to keep the argument more ſimple, clear, and eaſy to be underſtood, and afterwards mention the objections diſtinctly in their full ſtrength, and give a diſtinct anſwer to them.

RULE II. Let your method be plain and eaſy, ſo that your hearers or readers, as well as yourſelf, may run through it without embarraſſment, and may take a clear and comprehenſive view of the whole ſcheme. To this end the following particular directions will be uſeful.

1. " Begin always with thoſe things which are " beſt known and moſt obvious, whereby the mind " may have no difficulty or fatigue, and proceed " by regular and eaſy ſteps to things that are more " difficult." And as far as poſſible, let not the underſtanding, or the proof of any of your poſitions, depend on the poſitions that follow, but always on thoſe which go before. It is a matter of wonder that in ſo knowing an age as this, there ſhould be ſo many perſons offering violence daily to this rule, by teaching the Latin language by a grammar written in Latin, which method ſeems to require a perfect knowledge of an unknown tongue, in order to learn the firſt rudiments of it.

2. " Do not affect exceſſive haſte in learning or " teaching any ſcience, nor hurry at once into the " midſt of it, leſt you be too ſoon involved in ſeve- " ral new and ſtrange ideas and propoſitions which " cannot

" cannot be well underſtood without a longer and " cloſer attention to thoſe which go before." Such ſort of ſpeed is but a waſte of time, and will conſtrain you to take many ſteps backward again, if you would arrive at a regular and complete knowledge of the ſubject.

3. " Be not fond of crowding too many thoughts " and reaſonings into one ſentence or paragraph, " beyond the apprehenſion or capacity of your " readers or hearers." There are ſome perſons of a good genius and a capacious mind, who write and ſpeak very obſcurely upon this account; they affect a long train of dependencies, before they come to a period; they imagine that they can never fill their page with too much ſenſe; but they little think how they bury their own beſt ideas in the crowd, and render them in a manner inviſible and uſeleſs to the greateſt part of mankind. Such men may be great ſcholars, yet they are but poor teachers.

4. " For the ſame reaſon, avoid too many ſubdi- " viſions. Contrive your ſcheme of thoughts in " ſuch a manner as will finiſh your whole argument " with as few inferior branches as reaſon will ad- " mit; and let them be ſuch as are obvious and " open to the underſtanding, that they may be with- " in one ſingle view of the mind." This will not only aſſiſt the underſtanding to receive, but it will aid the memory alſo to retain truth: Whereas a diſcourſe cut out into a vaſt multitude of gradual ſubordinations, has many inconveniencies in it; it gives pain to the mind and memory, in ſurvyeing and retaining the ſcheme of diſcourſe, and expoſes the unſkilful hearer to mingle the ſuperior and inferior particulars together; it leads them into a thick wood inſtead of open day-light, and places them in a labyrinth inſtead of a plain path.

5. " Give all diligence in your younger years to " obtain a clear and eaſy way of expreſſing your " conceptions, that your words, as faſt as you utter

" them, may ſtamp your own ideas exactly on the " mind of the hearer." This is a moſt happy talent for the conveyance of truth, and an excellent ſecurity againſt miſtakes and needleſs controverſies.

RULE III. Let your method be diſtinct, and without the perplexing mixture of things that ought to be kept ſeparate, and this will be eaſily practiſed by four directions.

1. " Do not bring unneceſſary or *heterogeneous " matter into your diſcourſe on any ſubject; that " is, do not mingle an argument on one ſubject " with matters that relate entirely to another, but " juſt ſo far as is neceſſary to give a clearer know- " ledge of the ſubject in hand." Examples in logic may be borrowed from any of the ſciences to illuſtrate the rules; But long interpoſitions of natural philoſophy, of the imagination and paſſions, of agency of ſpirits united to bodies, &c. break the thread of diſcourſe, and perplex the ſubject.

2. " Let every complicated theme or idea be di- " vided into its diſtinct ſingle parts, as far as the " nature of the ſubject and your preſent deſign " requires it." Though you muſt not abound in needleſs ſubdiviſions, yet ſomething of this work is very neceſſary; and it is a good judgment alone can dictate how far to proceed in it, and when to ſtop.

Compound ideas muſt be reduced to a ſimple form in order to underſtand them well. You may eaſily maſter that ſubject in all the parts of it by a regular ſucceſſion, which would confound the underſtanding to ſurvey them at once. So we come to the knowledge of a very perplexed diagram in geometry, or a complicated machine in mechanics, by having it parcelled out to us in its ſeveral parts and principles, according to this and the foregoing rule of method.

3. " Call every idea, propoſition and argument " to its proper claſs, and keep each part of the ſub- " ject

* Things of one kind are called homogeneous, things of different kinds are heterogeneous.

" ject in its own place. Put thoſe things all together " that belong to one part or property, one conſi- " deration or view of your ſubject." This will prevent needleſs repetitions, and keep you from intermixing things which are different. We muſt maintain this diſtinction of things and places if we would be ſafe from error. It is confuſion that leads us into endleſs miſtakes, which naturally ariſe from a variety of ideas ill-joined, ill-ſorted, or ill-diſpoſed. It is one great uſe of method, that a multitude of thoughts and propoſitions may be ſo diſtinctly ranged in their proper ſituations, that the mind may not be overwhelmed with a confuſed attention to them all at once, nor be diſtracted with their variety, nor be tempted to unite things which ought to be ſeparated, nor to disjoin things which ſhould be united.

4. " In the partition of your diſcourſe into diſtinct " heads, take heed that your particulars do not in- " terfere with the generals, nor with each other." Think it is not enough that you make uſe of diſtinct expreſſions in each particular, but take care that the ideas be diſtinct alſo. It is mere foolery to multiply diſtinct particulars in treating of *things*, where the difference of your particulars lies only in *names* and *words*.

RULE IV. The method of treating a ſubject ſhould be plenary or full, ſo that nothing may be wanting; nothing which is neceſſary or proper ſhould be omitted.

When you are called to explain a ſubject, do not paſs by, nor ſkip over any thing in it which is very difficult or obſcure.

When you enumerate the parts or the properties of any ſubject, do it in a complete and comprehenſive manner.

When you are aſſerting or proving any truth, ſee that every doubtful or diſputable part of the argument be well ſupported and confirmed.

If you are to illuſtrate or argue a point of difficulty, be not too ſcanty of words, but rather become a

little copious and diffuſive in your language: Set the truth before the reader in ſeveral lights, turn the various ſides of it to view, in order to give a full idea and firm evidence of the propoſition.

When you are drawing up a narrative of any matter of fact, ſee that no important circumſtances be omitted.

When you propoſe the ſolution of any difficulty, conſider all the various caſes wherein it can happen, and ſhew how they may be ſolved.

In ſhort, let your enumerations, your diviſions, and diſtributions of things, be ſo accurate, that no needful idea or part may be left out.

This fulneſs of method does not require that every thing ſhould be ſaid which can be ſaid upon any ſubject; for this would make each ſingle ſcience endleſs; But you ſhould ſay every thing which is neceſſary to the deſign in view, and which has a proper and direct tendency to this end; always proportioning the amplitude of your matter, and the fulneſs of your diſcourſe, to your great deſign, to the length of your time, to the convenience, delight, and profit of your hearers.

RULE V. As your method muſt be full without deficiency, ſo it muſt be ſhort, or without ſuperfluity. The fulneſs of a diſcourſe enlarges our knowledge, and the well concerted brevity ſaves our time. In order to obſerve this rule, it will be enough to point out the chief of thoſe ſuperfluities or redundancies, which ſome perſons are guilty of in their diſcourſes, with a due caution againſt them.

1. "Avoid all needleſs repetitions of the ſame "thing in different parts of your diſcourſe." It muſt be confeſſed there are ſeveral caſes wherein a review of ſome foregoing propoſition is needful to explain or prove ſeveral of the following poſitions; but let your method be ſo contrived, as far as poſſible, that it may occaſion the feweſt rehearſals of the ſame thing; for it is not grateful to the hearers, without evident neceſſity.

2. "Have

2. " Have a care of tedious prolixity, or drawing " out any part of your diſcourſe to an unneceſſary " and tireſome length." It is much more honourable for an inſtructor, an orator, a pleader, or a preacher, that his hearers ſhould ſay, I was afraid he would have done, than that they ſhould be tempted to ſhew ſigns of uneaſineſs, and long for the concluſion.

Beſides, there is another inconvenience in it; when you affect to amplify on the former branches of a diſcourſe, you will often lay a neceſſity upon yourſelf of contracting the latter and moſt uſeful parts of it, and perhaps prevent yourſelf in the moſt important part of your deſign. Many a preacher has been guilty of this fault in former days; nor is the preſent age without ſome inſtances of this weakneſs.

3. " Do not multiply explications where there is " no difficulty, or darkneſs, or danger of miſtake." Be not fond of tracing every word of your theme, through all the grammatical, the logical and metaphyſical characters and relations of it; nor ſhew your critical learning in ſpreading abroad the various ſenſes of a word, and the various origins of thoſe ſenſes, the etymology of terms, the ſynonymous and the paronymous or kindred names, *&c.* where the chief point of diſcourſe does not at all require it You would laugh at a pedant, who profeſſing to explain the Athanaſian creed, ſhould acquaint you that Athanaſius is derived from a Greek word, which ſignifies immortality, and that the ſame word Ἀθανασια, ſignifies alſo the herb *tanſy*.

There are ſome perſons ſo fond of their learned diſtinctions, that they will ſhew their ſubtilty by diſtinguiſhing where there is no difference. And the ſame ſilly affectation will introduce diſtinctions upon every occurrence, and bring three or four negatives upon every ſubject of diſcourſe; firſt to declare what it is not, and then what it is: Whereas ſuch negatives ought never to be mentioned where there is no apparent danger of miſtake. How ridiculous would that

that writer, who, if he were ſpeaking of the Nicene creed, ſhould declare negatively, (1.) That he did not mean the doctrine which the inhabitants of Nice believed; nor, (2.) A creed written by them; but, (3.) Poſitively, a creed compoſed by ſeveral Chriſtian biſhops met together in the city of Nice? The poſitive is ſufficient here, and the two negatives are impertinent.

4. "Be not fond of proving thoſe things which "need no proof." Such as ſelf-evident propoſitions and truths univerſally confeſſed, or ſuch as are entirely agreed to and granted by our opponents. It is this vain affection of proving every thing that has led geometricians to form uſeleſs and intricate demonſtrations to ſupport ſome theorems, which are ſufficiently evident to the eye by inſpection; or to the mind by the firſt mention of them; and it is the ſame humour that reigns ſometimes in the pulpit, and ſpends half the ſermon in proving ſome general truth which is never diſputed or doubted, and thereby robs the auditory of more uſeful entertainment.

5. As there are ſome things ſo evidently true, that they want no proof, ſo there are others ſo evidently falſe, that they want no refutation. It is mere trifling, and a waſte of our precious moments, to invent and raiſe ſuch objections as no man would ever make in earneſt, and that merely for the ſake of anſwering and ſolving them: This breaks in notoriouſly upon the due brevity of method.

6. "Avoid in general all learned forms, all trap-"pings of art, and ceremonies of the ſchools, where "there is no need of them." It is reported concerning the late Czar of Muſcovy, that when he firſt acquainted himſelf with mathematical learning, he practiſed all the rules of circumvallation and contravallation, and the ſiege of a town in Livonia; and by the length of thoſe formalities he loſt the opportunity of taking the town.

7. "Do not ſuffer every occaſional and incidental "thought to carry you away into a long parentheſis, "and

" and thus to ſtretch out your diſcourſe, and divert " you from the point in hand." In the purſuit of your ſubject, if any uſeful thought occur which belongs to ſome other theme, note it down for the ſake of your memory on ſome other paper, and lay it by in reſerve for its proper place and ſeaſon: But let it not incorporate itſelf with your preſent theme, nor draw off your mind from your main buſineſs, though it ſhould be ever ſo inviting. A man, who walks directly but ſlowly towards his journey's end, will arrive thither much ſooner than his neighbour, who runs into every crooked turning which he meets, and wanders aſide to gaze at every thing that ſtrikes his eyes by the way, or to gather every gaudy flower that grows by the ſide of the road.

To ſum up all: " There is a happy medium to " be obſerved in our method, ſo that the brevity " may not render the ſenſe obſcure, nor the argu- " ment feeble, nor our knowledge merely ſuperfi- " cial: And, on the other hand, that the fulneſs " and copiouſneſs of our method may not waſte the " time, tire the learner, or fill the mind with trifles " and impertinencies."

The copious and the contracted way of writing have each their peculiar advantages. There is a proper uſe to be made of large paraphraſes, and full, particular, and diffuſive explications and arguments; theſe are fitteſt for thoſe who deſign to be acquainted thoroughly with every part of the ſubject. There is alſo an uſe of ſhorter hints, abſtracts, and compendiums, to inſtruct thoſe who ſeek only a ſlight and general knowledge, as well as to refreſh the memory of thoſe who have learned the ſcience already, and gone through a large ſcheme. But it is a groſs abuſe of theſe various methods of inſtruction, when a perſon has read a mere compendium or epitome of any ſcience, and he vainly imagines that he underſtands the whole ſcience. So one boy may become a philoſopher by reading over the mere dry definitions

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and diviſions of *Scheibler's Compendium of Peripateticiſm:* So another may boaſt that he underſtands *anatomy* becauſe he has ſeen a ſkeleton; and a third profeſs himſelf a learned divine, when he can repeat the apoſtles creed.

RULE VI. "Take care that your method be proper to the ſubject in hand, proper to your preſent "deſign, as well as proper to *the age* and *place* where- "in you dwell.

1. Let your method be proper to the ſubject. All ſciences muſt not be learned or taught in one method. Morality and theology, metaphyſics and logic, will not be eaſily and happily reduced to ſtrict mathematical method: Thoſe who have tried, have found much inconvenience therein.

Some things have more need to be *explained* than to be proved; as axioms, or ſelf-evident propoſitions; and indeed all the firſt great principles, the chief and moſt important doctrines both of natural and revealed religion; for, when the ſenſe of them is clearly explained, they appear ſo evident in the light of nature or ſcripture, that they want no other proof. There are other things that ſtand in need of proof, as well as explication, as many mathematical theorems, and ſeveral deep controverſies in morality and divinity. There are yet other ſorts of ſubjects which want rather to be warmly impreſſed upon the mind by fervent exhortations, and ſtand in more need of this than they do either of proof or explication; ſuch are the moſt general, plain and obvious duties of piety towards God, and love towards men, with the governments of all our inclinations and paſſions. Now theſe ſeveral ſubjects ought to be treated in a different manner and method.

Again, there are ſome ſubjects in the ſame treatiſe which are more uſeful and neceſſary than others, and ſome parts of a ſubject which are eminently and chiefly deſigned by a writer or ſpeaker: True method will teach us to dwell longer upon theſe themes, and to lay out more thought and labour upon them;

them; whereas the ſame art of method will teach us to cut ſhort thoſe things which are uſed only to introduce our main ſubject, and to ſtand as ſcaffolding merely to aid the ſtructure of our diſcourſe. It will teach us alſo to content ourſelves with brief hints of thoſe matters which are merely occaſional and incidental.

2. Your method muſt be adjuſted by your deſign; for if you treat of the ſame ſubject with two different views and deſigns, you will find it neceſſary to uſe different methods. Suppoſe the doctrine of the ſacred Trinity were your theme, and you were to read a lecture to young ſtudents on that ſubject, or if you deſigned a treatiſe for the conviction of learned men, you would purſue a very different method from that which would be proper to regulate a practical diſcourſe or a ſermon to inſtruct common chriſtians merely in the pious improvement of this doctrine, and awaken them to the duties which are derived thence.

In ſhort, we muſt not firſt lay down certain and preciſe rules of method, and reſolve to confine the matter we diſcourſe of to that particular form and order of topics; but we muſt well conſider, and ſtudy the ſubject of our diſcourſe thoroughly, and take a juſt ſurvey of our preſent deſign, and theſe will give ſufficient hints of the particular form and order in which we ſhould handle it, provided that we are moderately ſkilled in the general laws of method and order.

Yet let it be noted here, that neither the ſubject, nor matter of a diſcourſe, nor the particular deſign of it, can ſo preciſely determine the method, as to leave no room for liberty and variety. The very ſame theme may be handled, and that alſo with the ſame deſign, in ſeveral different methods, among which it is hard to ſay which is the beſt. In writing a ſyſtem of divinity, ſome begin with the ſcriptures, and thence deduce all other doctrines and duties. Some begin with the being of God and his attributes, ſo far

far as he is known by the light of nature, and then proceed to the doctrines of revelation. Some diſtinguiſh the whole ſubject into the credenda and agenda, that is, Things to be believed, and things to be done. Some think it beſt to explain the whole Chriſtian religion by an hiſtorical detail of all the diſcoveries which God has made of himſelf to this lower world, beginning at the *creation* in the firſt chapter of Geneſis, and ſo proceeding onward according to the narrative of the Old and New Teſtament. And there are others that endeavour to include the whole of religion under theſe four heads, namely, *The apoſtles creed, the Lord's prayer, the ten commandments, and the two ſacraments;* though I cannot but think this is the leaſt accurate of any. The ſame variety may be allowed in treating other ſubjects. This very *treatiſe of logic* is an inſtance of it, whoſe method differs very conſiderably from any others which I have ſeen, as they differ alſo greatly from one another, though ſeveral of them are confeſſed to be well written.

3. Though a juſt view of our ſubject and our deſign may dictate proper rules of natural method, yet there muſt be ſome little difference at leaſt paid to the cuſtom of the age wherein we live, and to the humour and genius of our readers or hearers; which if we utterly reject and diſdain, our performance will fail of the deſired ſucceſs, even though we may have followed the juſt rules of method. I will mention but this one inſtance: In the former century it was frequent with learned men to divide their theme or ſubject into a great multitude of co-ordinate members or parts, they abounded alſo in the forms of logic and diſtinction, and indulged numerous ranks of ſubordination. Now, though we ought not to abandon the rules of juſt method and diviſion, in order to comport with the modiſh writers in our age who have renounced them, yet it is prudent to pay ſo much reſpect to the cuſtom of the age, as to uſe theſe forms of diviſion with due moderation, and not affect

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to multiply them in ſuch a manner, as to give an early and needleſs diſguſt to the generality of your preſent readers. The ſame may be ſaid concerning various other methods of conduct in the affairs of learning, as well as the affairs of life, wherein we muſt indulge a little to cuſtom: And yet we muſt by no means ſuffer ourſelves ſo far to be impoſed upon and governed by it as to neglect thoſe rules of method which are neceſſary for the ſafe, eaſy, and complete inquiry into truth, or the ready and effectual communication of it to others.

RULE VII. The laſt requiſite of method is, that the parts of a diſcourſe ſhould be well connected; and theſe three ſhort directions will ſuffice for this purpoſe.

1. "Keep your main end and deſign ever in view, "and let all the parts of your diſcourſe have a "tendency towards it, and as far as poſſible make "that tendency viſible all the way:" Otherwiſe the readers or hearers will have reaſon to wonder for what end that or this particular was introduced.

2. "Let the mutual relation and dependence of "the ſeveral branches of your diſcourſe be ſo juſt "and evident, that every part may naturally lead "onward to the next, without any huge chaſms or "breaks which interrupt and deform the ſcheme." The connexion of truths ſhould ariſe and appear in their ſucceſſive rank and order, as the ſeveral parts of a fine proſpect aſcend juſt behind each other, in their natural and regular elevations aud diſtances, and invite the eye to climb onward with conſtant pleaſure till it reach the ſky. Whatſoever horrid beauty a precipice or a cataract may add to the proſpect of a country, yet ſuch ſort of hideous and abrupt appearances in a ſcene of reaſoning are real blemiſhes and not beauties. When the reader is paſſing over ſuch a treatiſe, he often finds a wide vacancy, and makes an uneaſy ſtop, and knows not how to tranſport his thoughts over to the next par-

ticular, for want of ſome clue or connecting idea to lay hold of.

3. "Acquaint yourſelf with all the proper and "decent forms of tranſition from one part of a "diſcourſe to another, and practiſe them as occa- "ſion offers." Where the ideas, propoſitions and arguments, are happily diſpoſed, and well connected, the truth indeed is ſecure; but it renders the diſcourſe much more agreeable, when proper and graceful expreſſion joins the parts of it together in ſo entertaining a manner, that the reader knows not how to leave off till he hath arrived at the end.

Theſe are the general and moſt important rules of true METHOD; and though they belong chiefly to the communication of konwledge, yet an early and thorough acquaintance with them will be of conſiderable uſe toward the purſuit and attainment of it.

Thoſe perſons who have never any occaſion to communicate knowledge by writing or by public diſcourſes, may alſo with great advantage peruſe theſe rules of method, that they may learn to judge with juſtice and accuracy concerning the performances of others. And beſides, a good acquaintance with method, will greatly aſſiſt every one in ranging, diſpoſing and managing all human affairs.

The *particular means* or *method* for a farther improvement of the underſtanding are very various, ſuch as *meditation*, *reading*, *converſing*, *diſputing by ſpeech or by writing*, *queſtion and anſwer*, &c. And in each of theſe practices ſome ſpecial forms may be obſerved, and ſpecial rules may be given to facilitate and ſecure our inquiries after truth: But this would require a little volume by itſelf, and a treatiſe of *logic* has always been eſteemed ſufficiently complete without it.

THE END.